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THE AUTOMOBILE

WHAT THE BIG TOUR TOLD IN RELIABILITY

FORTY-SIX cars started from Buffalo, July 9, in the memorable 1908 tryout, known as the "Fifth Annual Reliability Touring Contest of the American Automobile Association." Thirty-two of these cars were of touring variety, and fourteen belonged in the runabout class. At Saratoga, N. Y., July 23, there were twenty-three surviving clean-score touring cars and five runabouts—a remarkable conclusion of a remarkable test.

As if the 1,675 miles' journey were not sufficient to determine beyond question the reliability of American cars, the five tied runabouts are now being driven once more over the course, in an effort to evolve a winner of the Hower trophy.

Furthermore, if it had not been for a combination of circumstances the three touring car teams would also have participated in a renewal of the journey. But one team was prevented from so doing by the business duties of a member, while another trio declined to accept the special committee's decision regarding a protest, the details of which are hereinafter stated. This left a single team of the three tied trios, and, after reporting for an official start on the morning of July 24, it formally withdrew, declining to win unopposed, and, therefore, the Glidden trophy returns to the custody of the touring board of the American Automobile Association as its official depository until next year.

The automobile-buying public, which had followed closely the progress of the contest, was inclined to regard the run-off with mere curiosity, and, perhaps, some wonder that the interjection of prize trophies should have made it necessary to carry the test to so merciless a conclusion, in order to decide this point.

The wonder of the demonstration of the fitness of American cars of all types, powers and prices to negotiate such highways as the States provide, under such abnormally strenuous conditions as were set by the rules, grows with contemplation and analysis of the results. Nothing like it has ever preceded.

A "perfect score" meant the maintenance of a time schedule that but once was as low as 17 miles and but once as low as 18 miles an hour, in both cases over the roughest of water-break abounding mountain roads, and during the other ten days ran from 19 to a fraction under 20 miles an hour, the legal speed limit at all times being regarded by the schedule makers. It meant that during the run no replacements could be made of parts not carried and catalogued on the list given the committee, and that all adjustments, replacements and replenishment of fuel should be made on tour without allowance in the time schedule. None was possible outside the run, for all cars were placed under guard from the checking in at night until the checking out in the morning, so that the cars could not be touched.

Yet for twelve days the cars had battled with the worst roads the Middle and New England States had to offer, in a run of 1,675 miles, furnishing an average of close to 140 miles a day, a touring proposition that even the most enthusiastic voyagers-a-motor would hesitate to undertake simply for pleasure purposes.

Pennsylvania furnished two days of rough going through the Alleghenies and added a third in the Delaware Water Gap region, that meant bumping the bumps and chug-chugging up grades that put frames and motors to as cruel a test as the East can furnish. New York gave good roads most of the way, and so did Massachusetts. Maine, New Hampshire and Vermont, however, were penetrated to their picturesque wilds. The Poland, Rangeley and Bethlehem district highways, to put it

Typical Scene of the Big Tour—This Was at Poland Springs in Maine, Where a Night Stop Was Made.

mildly, were not built for "joy riding." Then came the wind-up run of 184 miles to Saratoga, on a 20-mile-an-hour schedule. It embraced a scramble over the Green Mountains that put even the run in and out of Bedford Springs in the shade for knock-out qualities. Here were water-breaks that could not be "one—two—three—foured," and furnished sheer drops of from two to three feet. If any part were weak from long pounding there would have been no escape for it.

The conduct of the tour was businesslike and effective. Chairman Hower was courageous in carrying out rules, and rendered his decisions promptly, without any diplomatic attempts at glossing them over by roast-saving compromises or diplomatic soft-soap. It was particularly noticeable on this tour that his decisions carried with them no conspicuous aftermath of dispute and argument, and there were few penalization points at which any pretense of protest was made. One highly important question, and, in fact, the crucial one of the tour, was left by the chairman to the officials, owing to its affecting his own club and incidentally a maker to whom he was indebted for the use of his pacemaking car, and this constitutes the one jarring note.

Facts Relative to Protest Are Conflicting.

The facts relative to the protest are conflicting in not a few respects, but sufficiently congruous to make it certain that there only could be in the realm of equity one decision.

Immediately after checking out Thursday morning, at Bethlehem, N. H., J. W. McGuire stopped when one-half mile from the checking station to take off the tire chains. Two men were on the job, and the utmost dispatch used. The chains, without wait, were tossed into the tonneau and the car was off in hot chase of the chairman's pacemaking machine. Nothing more was said of the matter by observer or driver. The car waited in line at Saratoga one hour to check in, there being no intimation on the observer's part that 3 minutes should be added to the car's running time because of the time lost taking off the tire chains, and nothing was said of this time by the observer before checking in. Immediately after checking in, the observer made up his report card, recording the three minutes' time lost. Driver McGuire signed it, and, immediately after signing, noted the 3 minutes recorded. He at once protested, claiming that the time spent in removing the chains was less than one minute, which would not affect his checking in because of the two minutes' leeway permitted. The observer claimed he took the time accurately, from the time the car stopped until the time it started again, and for this was censured by Chairman Hower, because observers were explicitly instructed to take the actual time required on the tire work, and not the time from the stopping of the car until it started on the road again. Much talk was heard because of the observer not having made out his report until after the car crossed the checking line. McGuire made a mistake in not asking the observer immediately after the chains were taken off as to the amount of time consumed. It was not obligatory on the observer to give this time without being asked, as his duties were simply those of observing and recording his observations.

Both Driver and Observer at Fault.

In commenting upon the decision in which the Pierce car was given a clean score, Chairman Hower dwelt on the fact that the car waited in line for over one hour, and that no work was done on the car during that time excepting to fill with gasoline and oil. The contest was not one of watches, but of cars, and it was not the spirit of the rules to throw out a perfect-score team because of a dispute in which it was apparent both driver and observer were at fault.

Earlier in the run penalties were thrown off other makes of cars on technical grounds. One Oakland had 2 points removed which were imposed for having a person other than the driver and mechanic pour water into the radiator. The car was by the roadside. R. M. Owen had bought a pail of water for 60 cents and only required a part of it. He asked anybody else if they wanted what remained, and, being answered in the positive, proceeded to empty the remaining contents of the 60-cent pail into the Oakland radiator. The rest is known. The observer, faithful to duty, recorded it and the chairman at first imposed the 2 points, but later a sensible interpretation removed the points. On the first day of the tour three or four cars crossed the line ahead of time, but the penalties were removed.

Only One Day without Penalties.

Of the 12 days of the tour there was only one in which not a car received a penalty, that blissful day being the ninth out, or the run up the ocean side from Boston to Poland Springs. Perhaps it was the two days of resting in Boston, coupled with the exceptional entertainment offered, that was responsible for the only clean day of the run. Certainly it was not the roads because in places there were trails through forest land where recent forest fires had destroyed the timber on either side, and at other times sharp jutting stones threatened tires, springs, and axles. Not a few of the cars took big chances on broken culverts and sharp turns, as well as with deep sand, but in spite of it all the cars were victors.

The worst day was "Black Monday" of the run from Bedford Springs to Harrisburg over the mountains and six cars received penalizations, in all 1,696 points being lost on the day. The evils of the day were not altogether responsible for the heavy toll; rather the previous Saturday climb from Pittsburg to Bedford over the Alleghenies weakened a few of the machines, and the second day of mountain work completed the breakdown. The remaining 10 days of the tour were about equal in the penalty score, although the toll was heaviest at the start.

In all twenty-seven penalizations were imposed, which does not mean there were twenty-seven cases of defects, as it often happened that a car broke a spring one day and was penalized points for being late in arriving, and the following day the car withdrew as a contestant, preferring to put in a new spring and take the full 1,000 count. This condition shows up as two penalties, when in reality it is but one. Eliminating all cases of this, there were but twenty-one cases of troubles in the twelve days of the run. Of these three were cases of wheel breaking, the offenders being Van Tine's No. 29 Garford, Jones' No. 25 Studebaker, and Clark's No. 22 Marmon. Three went out through springs breaking, No. 32 Selden, No. 12 Franklin, and No. 106 Franklin. In addition to this were a few other cases of spring troubles: Frank Nutt broke a leaf and the No. 28 Oakland broke every leaf of one spring on the third last day, but was able to continue without replacement until the end of the tour. Two cars were eliminated because of cracking cylinder castings: No. 102 Moline went out when 3 miles out of Harrisburg, the casting of one pair of cylinders breaking, due to a too thin portion in the wall between the waterjacket and the cylinder bore. The car was run to Philadelphia on two cylinders, at which point a new casting was put on. Howard Marmon broke a cylinder casting the last day and had to withdraw.

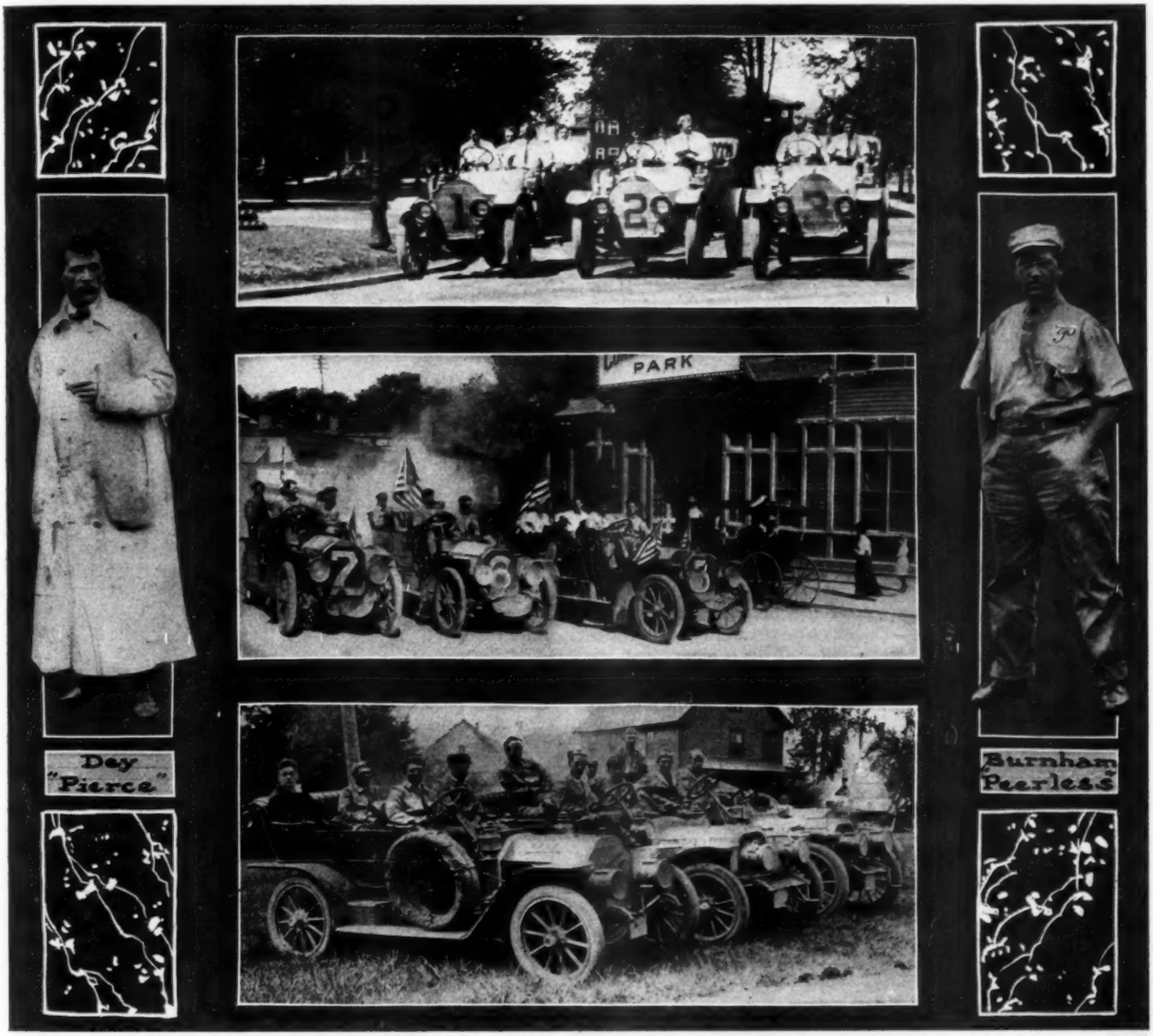
Repairs Were Accomplished Skilfully.

There were three or four cases of rear axle trouble. Hurlburt broke the drive shaft in the rear axle of his No. 31 Garford on the third day out and lost 8 points by using a new one; No. 111 Overland broke a rear axle leaving Pittsburg, but a new one was made in a blacksmith shop and the car finished the run. Owen's No. 4 Reo struck a hole too severely the second day out and had to straighten a back axle, which ran through the tour without any more attention and in good shape, there being no evidence that anything had ever occurred; and another of the Overlands broke a rear axle on the second last day's run, due to skidding when giving the road for a contesting car to pass. The No. 18 Gabriel horn Oldsmobile skidded into a stone on the second last day of the run and sprung the axle driver shaft. It was repaired in a blacksmith shop in a few minutes, after which it was impossible to detect anything wrong with the wheel or the smoothness of the car's running.

Few parts of the cars were watched more closely than the back axles, and it is one of the pleasing comments of the tour that they stood up so well. There were three cases of truss rods supporting the axles breaking, but all of them were speedily repaired. But one case of frame trouble arose, that being the No. 110 Overland that was ditched on the run to Harrisburg and cracked the left side frame member midway of the axles. The driver and mechanic in a blacksmith shop made a repair that lasted in perfect shape until the car reached Saratoga. Transmission troubles were practically eliminated, there being only three cases of such and all of minor importance.

ing knuckle, the car striking the curb so hard that the wheel was forced almost under the car. The replacement was made in an hour or so, and the car finished the tour without any further trouble. No. 28 Oakland had trouble twice with its straight tubular front axle, caused primarily by the driver taking the water breaks straight head-on, so hard that the tonneau passengers were nearly thrown out at times. The axle was taken out and reset; later it gave way and an improvised truss rod was used.

How many of the cars behaved is best gleaned from information given by drivers of many cars upon their arrival in Saratoga, and which information in not a few cases was borne



The Trio Numbered 1, 2, 3 Is the Pierce Team; 5, 6, 7 Are the Peerless Trio, While the Lower Picture Consists of the Oldsmobile and the Two Haynes Cars. The Pierce Team Represented the Buffalo Club; the Peerless, the Columbus Club; and the Mixed Team, the Chicago Motor Club.

Record exists of only one case of brake trouble, that being the seizing of one brake on No. 22 Marmon when the brake was too hurriedly applied at a water break. The brake seized not because of faulty design, but due to the bearing for the expanding cam becoming loose and allowing the cam to lodge crosswise between the shoes so tightly that the wheel had to be taken off before the cam was properly positioned. Front axle troubles were few. No. 9 Premier ran into a curb on the sharp turn entering Kingston and broke the hub bolt of the left steer-

out by the testimony of observers. No. 35, Oldsmobile, had six tire punctures, used one new casing, did not make a single motor adjustment or brake adjustment, and broke one spring shackle bolt, which was replaced by one of the driver's manufacture, without penalty. This car took on about four gallons of water on the entire run, showing the efficiency of its cooling system.

Teddy Dey's Pierce had a brake adjustment as its only alteration. Arthur Kumpf made a brake adjustment and added a new casing. The story with the Pierce and Peerless machines, which

was recorded in these pages last week, remained unchanged. No. 14, Franklin, did not make an adjustment of any nature, had only one puncture, but not a blowout, and did not need a new casing. Harry Hammond's No. 8, Premier, went through without a single adjustment other than one on the brakes, and used but two new casings. The two Stevens-Duryea machines traveled with particularly little tire difficulties. Driver Clark of No. 17 had but one puncture, and the observers reported very little use of the brakes on this car in the mountain work, the driver controlling the machine when going downhill by the motor.

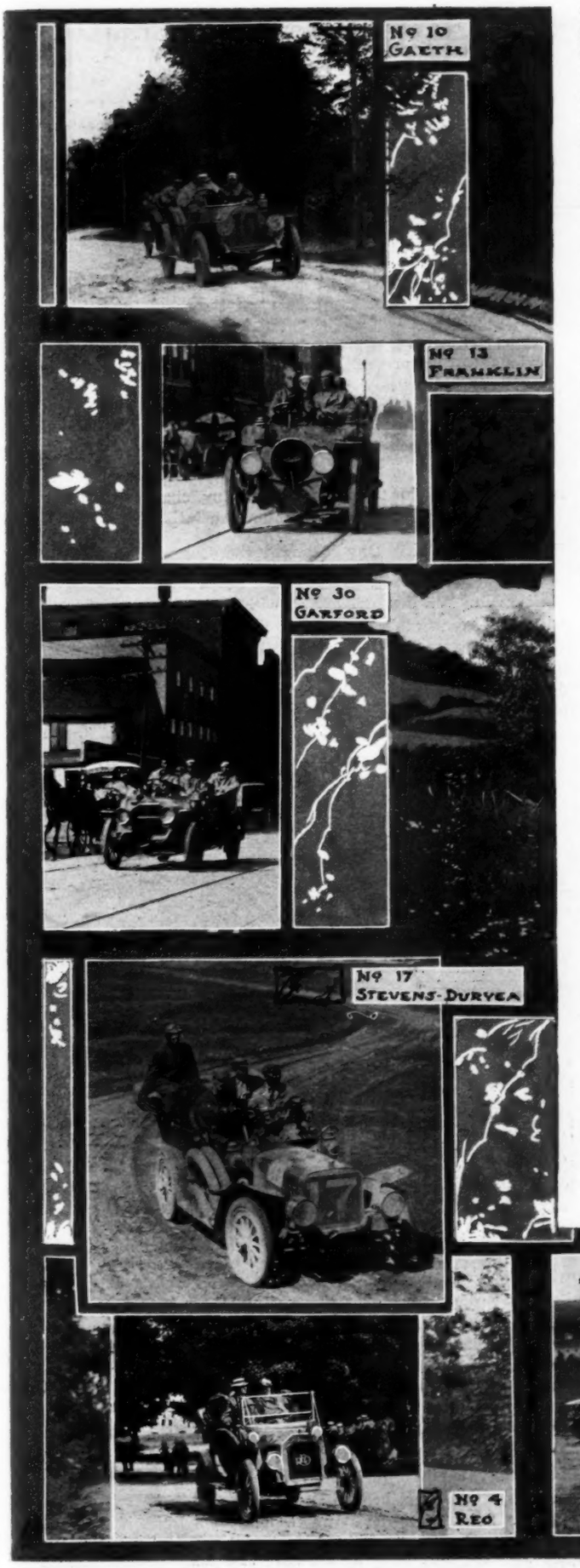
The two-cylinder Reo cars and the two-cylinder Oakland machines astonished a great many of the four and six-cylinder enthusiasts on the run. Before leaving Buffalo many of the tourists predicted they would never reach Pittsburg, but all four of them were on hand ahead of time at Saratoga, and not one of them took the 1,000 count, either. In fact, Lockwood's Reo and No. 28, Oakland, have a unique record, being the only two cars to receive penalization and not to withdraw. Lockwood's carried 12 points and the Oakland 58. It was remarkable how these little machines performed in mountain work, and the manner in which they took grades on the high speed. Both of the Reos were excellently handled by Owen and Lockwood, and the cars were in as good shape and running as well at the completion of the tour as at the start. The Oaklands were not so well handled, and No. 28 received all of its penalizations for reckless driving over water breaks. The other Oakland received better care, and went through in good shape, and without a point against it from the start to the finish at Saratoga.

As previously stated in these columns, radiator troubles were noted in a great many cases, and continued until the end of the tour. Radiators leaked near the base plates, and every job of soldering sufficed but for a day or more, when the water would be running out as bad as before. The cause was more with the radiator support than with the radiator construction. From a careful analysis the trouble can be avoided to a great extent by the use of a heavier transverse member of the frame in front of the engine as well as a more flexible method of support.

Fenders stood up remarkably well, and in the majority of cases rear fenders are attached sufficiently far from the wheels so that when tire chains are used they do not rattle against and wear out the fenders. Only two cases were noted where holes were worn in the fenders because of the tire chains hitting them. Last year many fenders were put entirely out of commission. This year only the Studebaker, that hit the bridge and tore off the right front fender, finished so dilapidated. The wrapping of springs was practised by a great many contestants, and proved most efficacious, not a case of springs so wrapped being broken. Shock absorbers gave a much better account of themselves, but the flexible shafts of the speedometers gave a little trouble, although 100 per cent. better than a year ago. Lamps and horns stood up well, and other accessories showed little evidences of the hard usage that was only too evident last year.

Ready to Start on Another Run.

In fact, looking over the cars as they stood in line waiting in front of the Grand Union Hotel, at Saratoga, to check in, made



everybody proud. The cars were in good condition, and looked more as if they were waiting to start out on a 2,000-mile run than after having actually finished such a test. The wheels were straight, mud aprons were tight, axles were in line, bodies were good, and every motor was hitting regularly on all of the cylinders. It was a supreme moment for American cars when, after 1,700 miles of running, twenty-eight of the original forty-six came in with perfect scores, and all but six of the cars that started were on the road and finished the tour. To the European with his fine roads, this might not be considered a great performance, but over American roads it is a truly great achievement, and one which speaks volumes for the American makers who had confidence that their cars could stand the test.

This year's Glidden deserved double, in fact, triple the entries it received; next year's run will be a winner, when more than one hundred cars should be lined up for the fray. Already many of the makers this year have signified their intentions of being on hand in next year's event. The Moline interests, that were represented by one car this year, will be in with a team next year. Franklin, that had a little spring trouble, due to not using shock absorbers or wrapping the springs, will be back next year with a team. It is certain the White people will have a team or so; other newcomers will be on hand; all of the old-time supporters who have now been in for several seasons will be on hand; and the 1909 tour through the West will, according to present prospects, be the biggest motor demonstration that America has ever seen. D. B.

PERFECT SCORES OF FIFTH A. A. A. TOUR, 1908.

Touring Cars.

No.	Car	H.P.	Entrant	Driver	Club
1	Pierce Arrow	... Chas. Clifton	.....	"Teddy" Dey	.. Buffalo 1
2	Pierce Arrow	... Chas. Clifton	.....	A. Kumpf	..... Buffalo 1
3	Pierce Arrow	... 60 J. W. Maguire	.	J. W. Maguire.	Buffalo 1
5	Peerless	..... 30 E. H. Parkhurst		Chas. Burman	. Columbus
6	Peerless	..... 30 E. H. Parkhurst		W. C. Straub	... Columbus
7	Peerless	..... 30 E. H. Parkhurst		H. D. Savage	.. Columbus
19	Haynes	..... 40 F. H. Nutt	.....	F. H. Nutt	..... Chicago 1
20	Haynes	..... 30 C. Wagoner	....	C. Wagoner	... Chicago 1
35	Oldsmobile	..... 40 F. L. Smith	....	A. Auble	..... Chicago 1
13	Franklin	..... 42 J. Wilkinson	...	C. Harris	..... Syracuse
14	Franklin	..... 42 F. H. Stillwell	..	H. S. Bate	..... Syracuse
16	Stevens-Duryea	35 J. F. Duryea	...	C. C. Smith	.... Springfield
17	Stevens-Duryea	35 I. H. Page	.....	I. H. Page	..... Springfield
21	Marmon	..... 50 F. E. Wing	....	F. E. Wing	.... Bay State
24	Studebaker	.... 30 E. V. Stratton	.	W. H. Yeager	.. Rochester 2
26	Studebaker	.... 30 E. V. Stratton	.	B. P. Yeager	... Rochester 2
4	Reo	..... 18 R. M. Owen	....	R. M. Owen	.... Buffalo 2
8	Premier	..... 30 R. M. Owen	....	H. L. Hammond	Buffalo 2
10	Gaeth	..... 35 P. Gaeth	.....	P. Gaeth	..... Rochester 1
11	Thomas	..... 70 G. G. Buse	.....	G. G. Buse	..... Rochester 1
15	Rainier	..... 50 Mrs. Cuneo	....	Mrs. Cuneo	.... Chicago 2
27	Oakland	..... 20 J. B. Eccleston	.	H. Bauer	..... Chicago 2
30	Garford	..... 40 A. R. Davis	....	G. Stevens	..... Cleveland

Runabouts.

No.	Car	H.P.	Entrant	Driver
100	Pierce Arrow	40	R. D. Garden	.... J. S. Williams
103	Pierce Arrow	40	Chas. Clifton	.... E. A. Rettling
104	Premier	30	G. A. Weidley	.... G. A. Weidley
107	Stoddard-Dayton	45	G. P. Moore	..... G. P. Moore
112	Stoddard-Dayton	45	R. G. Cox	..... R. C. Shirk

PIERCE RUNABOUT NO. 103 WINS THE HOWER TROPHY

PITTSBURG, July 29.—The two Pierce runabouts left here this morning for Bedford Springs, and to-night a conference will take place as to a continuation of the tie, in case neither car loses points to-day.

The following letter was this morning handed to E. C. Ferguson, official tour representative, and practically explains itself:

"With the elimination of our most esteemed and worthy competitor, a situation presents itself, which, together with other complications, has prompted me, with Mr. Stoddard's authority, to withdraw the Stoddard-Dayton cars now tied with the two Pierce cars for the Hower trophy. Our confidence in the ability of our competitors to continue this thing under the existing circumstances for the major part of the summer, together with Mr. Moore's refusal to continue further with his entry, and Mr. Cox's determination to withdraw from the contest, prompts us to take this action. We wish to pay the highest tribute to all our competitors in this run-off, and sincerely trust that our action in this matter will be taken in the proper light.

"(Signed) HARRY B. TUTTLE."

Brockway in Overland Which Had Unfortunate Skid.

When R. M. Owen left this morning in his No. 4 perfect-score Reo, carrying Dai Lewis and the confetti, he said he could continue indefinitely on the job.

How They Reached Buffalo.

BUFFALO, July 25.—The five perfect score runabouts that left Saratoga on Friday morning on the run-off for the Hower trophy all reached here to-night with their scores in as good condition as when the run proper was completed.

The first day's run from Saratoga to Syracuse, a distance of 160 miles, the roads were fairly good.

In contrast to this was to-day's run from Syracuse to Buffalo, over a 180-mile course, 9-hour schedule, 50 miles of which were over slimy roads that had been soaked with a 12-hour rain and additionally moistened by a good downpour that lasted during the first two hours of the run.

The five contestants involved in the run-off are the following:

No.	Car	H.P.	Entrant	Driver
100	Pierce Arrow	40	R. D. Garden	J. S. Williams
103	Pierce Arrow	40	Chas. Clifton	E. A. Rettling
104	Premier	30	G. A. Weidley	G. A. Weidley
107	Stoddard-Dayton	45	G. P. Moore	G. P. Moore
112	Stoddard-Dayton	45	R. G. Cox	R. C. Shirk

Of these five machines the two Pierces are six-cylinders, of 43.8 horsepower; the other three, the Stoddard-Daytons and the Premier, are four-cylinder cars of much lower rating. The Premier is the only example of low-tension ignition, as well as the only one of the five having a multiple disc clutch. The two Stoddards and the Premier use selective gear-sets, where the Pierce cars use a three-speed progressive set, with the speed-change lever on the steering pillar immediately beneath the steering wheel. Magneto ignition is employed on all, and of special interest is the use of Goodrich tires on all five contestants.

The drivers are in every instance quiet, stand pat performers, not a single one of the grandstand variety. Ed. Rettling is a tester at the Pierce factory. He drove the Pierce pilot car in the New York-Pittsburg run in 1903, the car being a two-cylinder type. He drove from Boston to St. Louis in the St. Louis tour, obtaining a perfect score certificate. The present run is his third big performance. J. S. Williams is coupled with the New York Pierce Agency. He drove in the 1907 Glidden, carrying off a perfect score. George Weidley is factory superintendent and treasurer of the company, as well as being head of the Premier engineering department. He has never driven in a tour previous to the present one. Both of the Stoddard-Dayton drivers are novices at the touring game, but have already shown their knowledge of road driving.

Scores Were Unchanged at Cambridge Springs.

CAMBRIDGE SPRINGS, PA., July 27.—The five runabouts arrived here from Buffalo to-night without any change whatever in their perfect scores. The run was uneventful.

Third Day Brought the Changes.

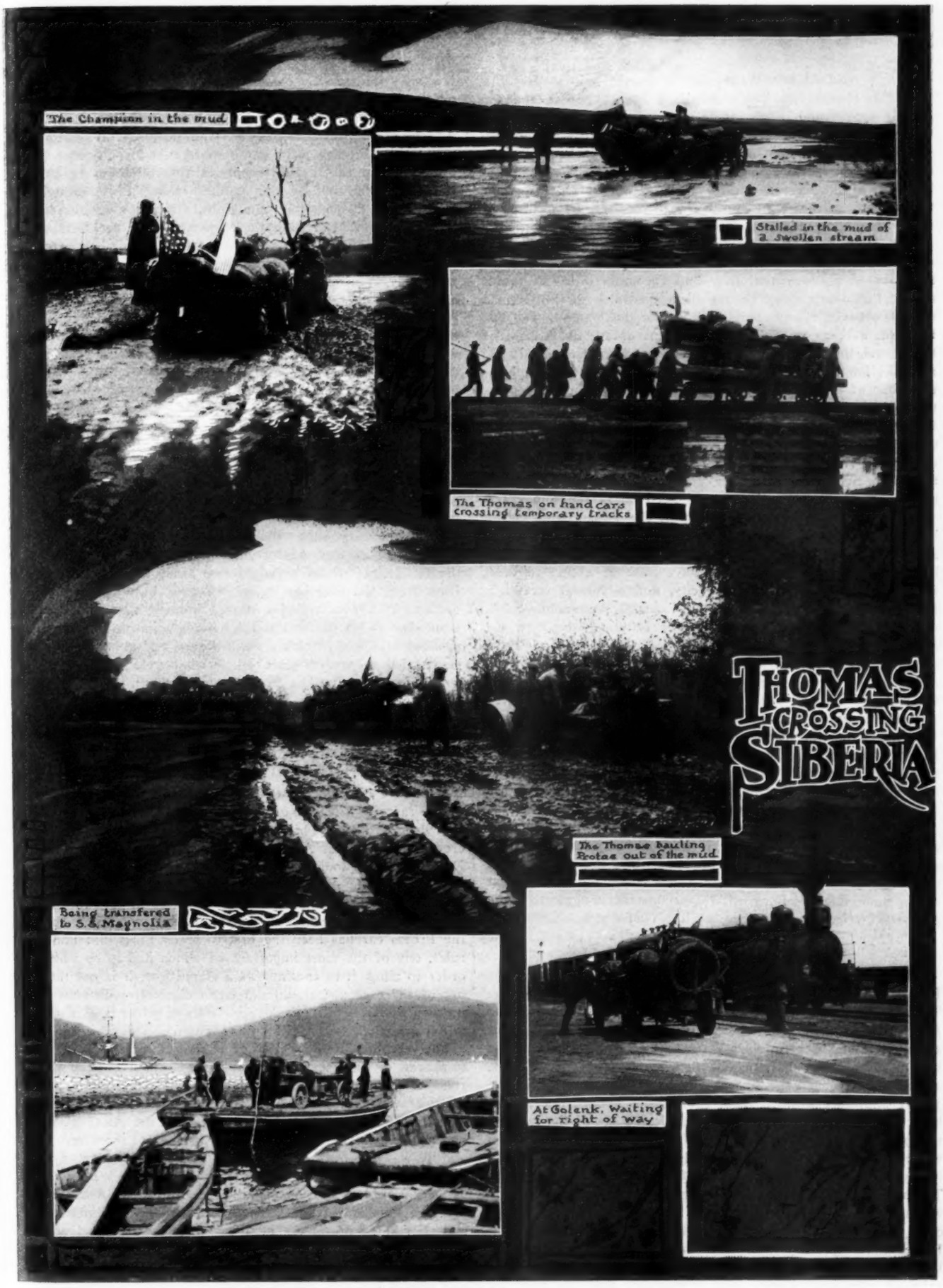
PITTSBURGH, July 28.—To-day saw the commencement of the finish, with Weidley going out with a broken front axle, 48 miles out from Cambridge. The prime cause was a water crack, evidently due to the too sudden chilling of the forging. The immediate cause was due to coming over a sharp rise and then down a steep dip that at the bottom had a double washout. The place was just beyond Mercer, and on the regular route as laid out in the book, the detour made in the tour proper going through New Castle being avoided in the run off. Owing to heavy rains the better part of last week all through that section, and from the fact that the roads are of clay and with many sharp grades, there were many washouts covering 40 miles of the day's run.

Premier Runabout in the Maine Woods.

From this, it is the opinion of all in the present run that had the tour proper gone over this section there would have been less perfect scores, as it was a hard road to travel, irrespective of last week's weather conditions. Weidley was not the only one to come to grief, as Moore on No. 107, Stoddard-Dayton, broke his side frame, and, while finishing to-day with a perfect score, is hardly in position to continue for another day.

Another car not in the run was seen on this stretch out of commission with the down lever from the steering gear broken short off. The driver of this car had not ten minutes before offered sympathy and help to Weidley.

At the finish of to-day's run the cars had little, if any, time to spare, and are a unit in declaring the run the severest of them all. Weidley fixed up his axle and came in this evening.


The Champion in the mud
Stalled in the mud of a swollen stream
The Thomas on hand cars crossing temporary tracks
THOMAS CROSSING SIBERIA
The Thomas hauling Protas out of the mud
Being transfered to S.S. Magnolia
At Golenk, waiting for right of way

THOMAS DUE TO-DAY IN PARIS ON LAST STRETCH

NEWS received late Wednesday afternoon to the effect that the Thomas car had crossed the French border and was rapidly approaching Paris, made it apparent that the American car would arrive at the French capital either that evening, or the next morning, thus making it the victor, by about 28 days, of the longest race that has ever been run, owing to the 30-day handicap of the Protos, due to the latter not having completed the crossing of the American continent under its own power by more than 1,000 miles. Dispatches received by the New York *Times*, from its staff correspondent on the American car, tell of the arrival at Berlin over one of the most magnificent stretches of highway that they had encountered in the whole of the 13,000-mile run. During the last stretch to the German capital, between Koenigsberg and Berlin, the Thomas was lost to sight, and, as no bulletins were sent ahead, the arrival of the American car in Berlin was entirely unannounced. It did not take long for the population to discover its presence, however, one of the first to greet Schuster being Colonel Koeppen, the white-haired father of the German lieutenant who successfully piloted the Protos into Paris Monday evening. The news of the Germans' successful arrival at the French capital did not disturb the American crew in the slightest, and but for the fact that both Schuster and Miller are practically worn out with night and day driving, they would keep on at the same pace.

The silent and unannounced entry of the Thomas into Berlin brought forth profuse apologies and regrets from the German automobiling fraternity there, as had the car's coming been made known in advance, there would have been an escort to meet them some distance out of the city, and a formal reception. Count Sierstorpf, president of the Imperial Automobile Club, and Rudolf Ullstein, one of the four brothers who own the *Zeitung Am Mittag*, the German daily which backed the Protos car in the race, took Schuster and his fellow travelers in hand and tendered them a breakfast at the Fuerstenhof hotel, while the sight of the car over which the Stars and Stripes waved attracted a vast assemblage before the hotel.

In fact, from the moment the American car raced across the Russian frontier into Germany, there has been the most marked difference in the spirit of the greetings, a small group of peasants at Eydtkuhnen sending up the first real cheer that the Thomas crew had heard since leaving Japan. The sight of the American flag seemed to arouse the greatest enthusiasm, the pretty flaxen-haired peasant girls hurling bouquets and kisses at the travel-stained crew as if they were long-lost friends. All the way from St. Petersburg, the roads have been so fine that it was monotonous driving, after the constant struggle to make progress carried on ever since leaving Vladivostok.

Thomas Siberian Trip a Marvelous Feat.

When it is considered that on the run from Vladivostok the Protos has, through unfortunate accidents happening to the Thomas, been able to gain more than 10 days, the fact that the Americans will reach the end of their 20,000-mile journey but 48 hours behind is certainly a marvelous accomplishment. This will mean that they have won with a leeway of fully 28 days, as had they reached the French capital at any time within the 30-day allowance granted them against the Protos, due to the latter never having completed the American stage of the journey to San Francisco, as well as the fact that the Thomas crew wasted a fortnight in finding out that the Alaskan trails were impassable. The most wonderful feature of the run of the Thomas is to be found in its having covered every foot of the way under its own power, being the first to arrive at San Francisco of the numerous competitors then in the race, while the Protos never got beyond the Union Pacific Shops at Ogden, Utah, to which it had to return three times in succession for repairs of a serious nature. Had it complied with the rules as originally laid out, by completing the journey to San Francisco overland, thence to Vladivostok by steamer via Seattle, it is safe to say that the American car would have been half way across Siberia before the Germans arrived in the Czar's dominions.

But the Germans were game sportsmen for all that, as was evident from Lieutenant Koeppen's determination to keep on at all hazards, and by the manner in which he brought the Protos car through the numerous difficulties encountered in the Siberian wilds. Both the Americans and the Germans, as well as the Italian Zust team, started from Vladivostok together, the French De Dion team going as far as the Russian Pacific port, only to abandon the race there, Marquis De Dion giving as a reason, that having been through the Pekin-Paris of the year before, this would be only a repetition. The Thomas and its German rival kept together for the first few hundred miles, when Schuster found the Protos hopelessly mired. The German car was extracted from its mud bed with the aid of the Thomas' motor and the Germans stole a march on the Americans by abandoning the so-called road for the railroad right of way, which gave them a two-day lead before this was discovered. The Thomas crew also took to the railroad tracks, but in bumping its way over stretches of the unballasted ties, the car was damaged and five days were wasted in obtaining replacement parts, this being but the first of a long line of mishaps that befell the Americans from that time on.

From the very outset the crew of the Zust appears to have suffered the greatest misfortunes. It was at first reported that the Italian car would be withdrawn along with the French De Dion from the Siberian leg of the race, but this later proved unfounded, and Scarfoglio started out of Vladivostok at the same time as his German and American competitors. His progress has been exceedingly slow, however, and although he would be entitled to second place by arriving in Paris at any time within 30 days after the Protos reached there, it does not seem likely that this will be the case, as according to last accounts he was still 5,000 miles away from the French capital when Lieutenant Koeppen officially registered there Monday evening.

Question of Awarding Thompson Prize.

It will be remembered that on the evening prior to the start of the race from New York, which took place February twelfth, Lincoln's birthday, a banquet was tendered to the drivers and crews at the A. C. A., during the course of which Jefferson De Mont Thompson, chairman of the racing board of the American Automobile Association, presented American flags to each one of the cars and offered a prize of $1,000 in gold to the crew which should be the first to deliver its flag in Paris. Actually, the Protos car has been the first to reach Paris, but under the rules, one of the most important of which had to be waived in order to allow it to continue as a competitor, it is not the winner of the race and it did not cover the entire distance under its own power, which would apparently seem to be a vital condition precedent to a claim on the Thompson prize.

The reception of the Protos at Paris was a most frigid affair compared to the great ebullition of joy which greeted the arrival of the German "victor" at Berlin, this being the manner in which the Protos was generally hailed there. In the French capital, two members of the committee of the A. C. F. bowed and shook hands with the Germans in front of the *Matin* office, and it was all over, indicating rather strongly that France's automobile pride is still writhing over the Grand Prix defeat, as well as its lack of representation in the present event, an impression that is further strengthened by the statement which appeared in *Le Matin* the next day, that the race had officially ended at Berlin for the German car, and accordingly there was no necessity for an official reception at Paris, though how this was figured out it is difficult to say.

OBSERVED IN THE BREAKING-IN OF A NEW HAND

By CHARLES B. HAYWARD.

"HANDSOMELY there, you lubber—steer small or we'll sink the next ashcart that crosses our course," yelled the driving instructor to the novice at the wheel beside him, and whom he had allowed to assume that post of importance in a burst of overconfidence in the learner's skill. A close escape from making a brougham minus one of its rear wheels, and the succeeding lunge to the opposite side of the more or less crowded street, that threatened bringing up against something undesirable, had considerably shaken this confidence and brought forth the above remark. In navy parlance, "handsomely" means a very little at a time, as in lowering something on the end of a tackle, while "steering small" is something that the aspirant for honors at any steering wheel has to acquire before he can become proficient in the art of guiding either a sea-going craft or an automobile.

Until he can learn to "steer small," the beginner is a memace to himself and everything else on the road; a ten-acre lot is the best place for him. That irresistible desire to yank the steering wheel half way round every time an obstruction looms up, is an extremely dangerous tendency that the average beginner finds himself possessed of the first time he takes his seat behind the steering wheel, and realizes what an *awful* speed the car is actually traveling at. Queer how 10 miles an hour seems five to the new man when he is sitting beside the driver, but when he is the driver himself and he finds it his duty to keep the machine on its course, and, worse than that, to avoid other users of the road, every one of whom appears to be heading straight for him, that otherwise most moderate speed seems little short of appalling. It looks as if nothing short of a half turn of the steering wheel would suffice to clear another onrushing car, or the exasperatingly dilatory wagons and pedestrians, who will persist in getting in the way.

Wide Streets Become Alleys to the Novice.

There is no street wide enough for the brand new hand at the steering wheel of an automobile to have plenty of seaway in. He finds the broadest of them all too narrow for him when he gets started on the see-sawing process that only the acquirement of the knowledge of "steering small" can cure. When it is borne in mind that it is seldom necessary to give the steering wheel a whole revolution to bring the front wheels to right or left locking position, it will be apparent that the slightest movement of the wheel is greatly magnified in the effect it has on the angle of the front wheels, while the latter in their turn increase the effect they have on the direction of the vehicle according to the speed at which the latter is running. Hence, guiding an automobile, particularly through thick traffic, is an art that involves quite a few factors, the full value of each of which must be realized by the novice before he can attain to that eminence of easy nonchalance with which the average driver tools his car along the city streets, apparently undisturbed by the maze that surrounds him on every hand.

It is only when he comes to appreciate the fact that the car responds instantly to the slightest movement of the steering wheel, for the automobile is the easiest vehicle to guide that has ever been invented, that the beginner really commences to learn how to take care of what is now justly considered the most elementary rudiment of the art of running an automobile. Over self-consciousness of the fact that he is sitting behind the steering wheel and that it is his duty to turn it, betray the tyro into most of his lapses from the straight path, and it was this same quality that made it difficult for many people to master the bicycle. They were under the impression that the handle bar had to be forcibly wrenched to one side or the other in order to obtain the desired result, whereas a little experience demonstrated that steering was practically an unconscious function, once the art was acquired. So it is with the driver of an automobile. It is nothing uncommon to see the driver of a racing automobile remove both hands from the wheel to adjust his goggles while going more than 30 or 40 miles an hour on the straightaway, and instances have been known where this apparently foolhardy performance has been indulged in at extremely high speeds.

Though such a practice is hardly to be recommended, the automobile can always be relied upon to guide itself to a certain extent when running straight ahead and at a moderate speed. If the forward wheels are parallel to the driving wheels, the car will continue to run straight ahead, with little or no deviation, so long as it does not run against an obstacle. Realization of this fact goes a long way toward firmly establishing the confidence of the beginner, for, as was the case with the new hand on a bicycle, the would-be driver of a car hesitates to relinquish the wheel for an instant, lest the machine take a sudden freak into its head and turn a corner unaided.

There Are Other Equally Important Things.

This, together with the acquirement of sufficient ability in handling the wheel to know just how little or how much to move it to attain the desired end, is really all there is to the business of guiding the car. The rest is entirely a matter of experience—the gaining of that familiarity in handling the car which makes the driver a part of his machine. But it is only after he knows how to "steer small" that this begins to count, and the nautical term expresses a great deal in its brief two words, as most ambitious would-be drivers find out very quickly.

After all, steering a car is really the easiest thing to learn about its control, though gaining a knowledge of this rudiment is considerably complicated by the fact that there are other equally important operations that must be carried on simultaneously with the guidance of the vehicle. The average gasoline car presents an imposing array of pedals and levers to the inexperienced eye, and at first it becomes a difficult matter to remember just which ones require to be pushed and which have to be pulled to bring about certain results, and at the same time give that undivided attention to the essential of steering that seems to be so necessary in the early stages of the curriculum. It looks so ridiculously easy, the way the average driver starts and stops, takes his car in and out of the mazes of traffic, changes gear and performs the other operations incident to handling the car, that it does not seem possible that there are so many perplexing things to it as confront the beginner.

The new hand's first inclination is to jam on the emergency brake the moment that danger threatens, not realizing that the running brake under his foot is sufficient for all uses at ordinary speeds, and that reckless use of the more powerful brake is apt to mean a substantial increase in the tire bill, not to speak of the only too obvious indication of a lack of skill on the part of the driver that it implies. But next to steering, gear-changing is the most difficult thing to master, and not alone the mere performance of this operation, but a realization of when it is necessary and when not. But the gasoline motor has a habit of stalling, when its speed and the gear on which it is running do not happen to agree, and when this happens in the middle of a busy street, it is more than sufficiently disconcerting to cause the novice to regard this peculiarity of the motive power of the car with due respect.

Beginners Invariably Leave Gears in Mesh.

Doubtless one of the hardest things to instill into the new hand is the danger of leaving the car with the motor running and the change-speed gears still in mesh, but it is a habit that is almost universal, as well as one that requires several lessons to overcome. Even then, there is as apt to be a relapse into forgetfulness of the importance of this essential, as there is to be due heed paid to the instructor's forceful reminders on this

point. An automobile has not ordinarily the inherent power of running away that is given as one of the most dangerous propensities of the standing horse, but when in this condition it can only be compared to the restive animal that will bolt on the slightest provocation. With the gears in and the motor running, only the interlocking device on the emergency brake that holds the clutch out prevents the car from starting of its own accord, and that it does not take a great deal to bring this about was made evident by a comparatively recent case in which a driver started the motor of his car with the gears in while on a ferry boat. The latter bumped the side of the slip in coming in and the shock was sufficient to release the emergency brake lever and allow the car to start. It all took place so quickly that the car went overboard, despite the folding gates, before the astonished driver could do anything.

Oiling is another item of considerable importance that the driver, in the process of having the rudiments thrust upon him, forgets to take due note of, so that frequently where the instructor purposely stops the flow of lubricant through the sight feeds to test the skill of his pupil in this regard, the latter goes ahead as if everything were in perfect working order. On many cars the oiling system has been reduced to such a high degree of self-contained simplicity that only periodical attention is required, but this is not the case on the old-timers that do duty as a medium for instructing those who aspire to the title that was imported along with the first French automobiles.

If the number of coachmen who have taken up the curriculum of the New York School of Automobile Engineers, at which the foregoing observations were made, were generally known, the weight of the phrase about the passing of the horse would be given a great deal more credence. Your typical Jehu is a born type and mechanical knowledge usually comes hard to him, but he makes an excellent driver at all times and particularly in the city. He is accustomed to paying due regard to the rights of other users of the road and he seldom has resort to speeds of much more than 12 miles an hour at any time. It is so much faster than he has ever been accustomed to traveling that he does not wish anything higher but is content to plod along at this conservative pace. He is methodical, too, and does not forget the necessity of oiling, filling water and gasoline tanks, and, above all, of keeping his machine scrupulously clean.

He forms quite a goodly portion of the number of men who seek automobile education as a means of bettering their positions in life, and while his mechanical skill upon graduation will not average quite up to that of the remainder of the student body, which is composed of young mechanics, electricians, garage attendants and the like, on the whole he makes a much more careful and conscientious driver than the latter class.

HOW ONE MAN BECAME AN AUTOMOBILIST

By A. H.

WHEN the auto fever first took hold of me, in the summer of 1906, my problem seemed insolvable. Even a runabout of standard make cost more than I felt justified in paying for a mere luxury, and yet such a vehicle would have been unsatisfactory, as it seats only two persons, and my family consists of three, none of whom would take much enjoyment in autoing if one had to be left behind every time the car was taken out. At last a friend, himself the owner of a fine gasoline touring car, advised me to investigate the merits of a certain steamer, which at this time, in spite of my careful study of the automobile question, I had never so much as heard of. I soon ascertained that second-hand cars of this make, in fair condition, could be bought for very little money, and in a short time I found what I wanted and made my purchase. My car cost me, delivered at my home, a little less than $375. This was just before cold weather set in, so that I did not attempt to get any use of it until the following spring.

On the opening of the season of 1907, as there was no one where I lived familiar with this particular make of car, I sent for an expert from a garage and repair shop in a neighboring city. He repacked a few valves, made some necessary adjustments, fired up, and gave me instructions in the management of the car. The following day I fired up and took the car out myself, unassisted, and ran it for several hours, both morning and afternoon. For a number of days all went well, and we were delighted with our acquisition.

But, after a time, a series of annoying mishaps occurred; none of them serious; many, in fact, mere trifles that I could now set right myself. They would not have been so perplexing if there had been any one in town acquainted with this make of car. As it was, I was obliged to depend on the foreman of the railroad repair shops, who is at liberty only after hours, and not always then. I got along, however, with some expense and much exasperation, almost on the verge of giving up autoing as too troublesome and costly an amusement for me, until the first week in July, when on the top of all my other troubles, the superheaters burned out.

Though disheartening enough at the time, this was really the best thing that could have happened, for it was the cause of my taking the car out of town to the repair shop above mentioned, where, with all necessary machine tools and spare parts at hand, a workman could do more in an hour than he could at my house in ten. My expert spent a few hours on the car, and did so thorough a job that from that day until the close of the season the car cost me less than one dollar for repairs and replacements. This does not include what I have paid for tires, which is another story. The tires were not new when the car came to me, and I have bought three new ones, at $22.22 apiece. I bought another before taking the car out this spring, so that I have four practically new tires, and two spares ones, good enough to carry for use in emergency. The car is in better condition now than when I bought it, and will undoubtedly cost far less to run this season than it did last.

During the summer, when I had ten weeks free, I ran the carriage nearly every pleasant day, at a cost of about $3 a week for gasoline. My entire outlay for the year, including original cost of car, three new tires, tools, and other equipment, gasoline, oil, barn rent, repairs, everything, amounted to a little less than $600. This is more than I intended it should be when I started out; but, considering all that we got for the money, it was probably money well spent.

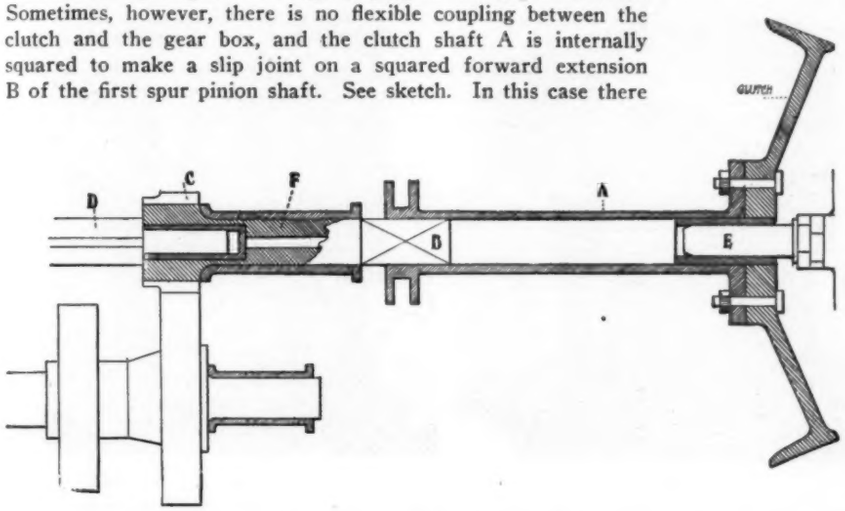
Being so much in the open air has benefited us all greatly. Autoing is better than medicine. Hitherto during the summer months books have been my chief occupation, and no open air amusement gave me much real pleasure. Last summer the automobile afforded a delightful form of recreation and a change of occupation so wholesome to both mind and body that I entered upon the work of the autumn and winter with a larger store of vigor than I had enjoyed for years.

Being unaccustomed to machinery and to the use of tools, I was surprised to find the automobile so simple and easy to manage and care for. My eleven-year-old boy can run it as well as I can; and I sometimes allow him to fire up, which he can do unaided, without one word of direction from me.

The little car is graceful in its lines and unpretentious in appearance. Indeed, it looks more like a buggy than an automobile, in spite of its low wheels, pneumatic tires and comparatively long wheelbase. It has ample power to carry four persons, is smooth-running and quiet, and easy to control even in the midst of a crowded street. Though it has its limitations and disadvantages, it has done all one could reasonably expect, and I am abundantly satisfied.

GOOD POINTERS FOR AMATEUR REPAIRMEN

OCCASIONALLY a car will be found in which unclutching fails to completely relieve the strain on the sliding gears, so that, although the clutch is disengaged, it is difficult to shift the gears. This is always due primarily to the forward journal of the squared shaft binding in the bushing in the first spur pinion which received the power from the clutch. The effect of this binding, however it happens, is to make the squared shaft tend to turn with the first spur pinion, and if any gear but the direct drive is in engagement there will be a drag imposed on the gears in mesh which will make them hard to shift. The cause of the binding between the square shaft and the pinion is another matter. If there is a flexible coupling between the clutch and the first spur pinion, the cause of trouble may be looked for in the gear box itself, in the shape of a sprung sliding gear shaft or badly aligned bearing carrying the first pinion shaft. Sometimes, however, there is no flexible coupling between the clutch and the gear box, and the clutch shaft A is internally squared to make a slip joint on a squared forward extension B of the first spur pinion shaft. See sketch. In this case there



How the Gearshaft May Become Sprung and Cause Binding.

is no more chance for disalignment than is afforded by the side play in the square slip coupling just mentioned, and if, for any reason, that play is insufficient, the clutch shaft will forcibly slant the first pinion C out of line with the other shafts in the gear box, thereby cramping it on the shaft D carrying the sliding gears. Disalignment of this sort is usually due to sagging of the frame, and is to be corrected by suitably shimming the engine and the gear box, or the gear box alone, as circumstances require. If the engine rests on the side members of the frame by four narrow feet it may be difficult to hold shims in place under these feet. In this case both the front and rear ends of the gear box may be dropped to bring the gear box in line with the engine, and the rear end of the gear box may be dropped to bring the gear box in line with the engine, and the rear end of the gear box will have to be lowered more than the front end. If the gear box is bolted to the under side of the cross members of the frame, shims are easily inserted, but if it rests on the latter it may be necessary to go to the trouble of soldering brass shims to the frame under the rear feet of the engine.

At Times Both Shafts Will Be Out.

In case it is found that the slide gearing and first spur pinion bind only in one position of the clutch, but are free when the clutch is turned 180 degrees, it follows that the clutch and pinion shafts are mutually out of line, probably owing to the internal squared portion of the clutch being out of line with the front bearing running on the engine shaft E, and the squared extension B of the pinion being out of line with the journal portion F. If these respective squared portions are separated and one is given a half turn it is likely that the errors will neutralize each other, making it very easy to correct the defect.

Some of the old forms of make-and-break igniters depend on mica washers for insulating the stationary electrode. These washers may be found at both the inner and outer ends, or at the inner end only. If they are at the inner end they are very easily rendered ineffective by deposits of carbon. It is of no particular avail to clean them with gasoline, if the oil soaks in between the mica leaves, since on subsequently burning out it leaves the carbon behind it, where, of course, it is perfectly inaccessible. For this reason the use of mica for internal insulation has been practically abandoned; but there are many cars still running which have igniters arranged in this way. Even when lava bushings are used, cleaning is occasionally necessary, although in this case it is much more effectual, and a little gasoline and sandpaper will keep a lava bushing in service for a long time. When the engine fails to ignite, particularly if all cylinders fail owing to a recent heavy dose of oil, and if the circumstances are otherwise such as to make it uncertain whether the igniters or carbureter is at fault, it may be desirable to test the insulation of the igniters without removing them. If the igniters have mica washers, an electrical test may be the only way to settle definitely whether or not the insulation is good. A very easy way to make this test is to use a battery of any convenient strength —a single cell will suffice—with a pocket voltmeter whose scale is proportioned to the battery used. All the electrodes are disconnected from the bus bar, and note is taken which, if any, of the igniters is making contact from the action of its cam. The others are then tested by putting the voltmeter in series with the battery, and connecting the free terminals of the voltmeter and the battery to the insulated electrode and the engine frame respectively. If the insulation is perfect the voltmeter will give zero reading. If the electrode is completely short-circuited, the voltmeter reading will be the voltage of the battery. If there is a partial short circuit due to carbon, the voltmeter reading will bear the same proportion to the full voltage of the battery that the resistance of the voltmeter coil bears to the resistance of the carbon short circuit, being low when the carbon resistance is high and increasing as the carbon affords a freer path for the leakage of current. If any of the igniters is making contact, the crank must be given a turn before testing it. If suspicion is directed to the magneto itself or the switch or wiring, one can tell whether or not a spark is produced at any igniter by touching the insulated electrode and the engine at the same time while the crank is turned. This test, however, will not betray carbon leakage.

A Simple Gasoline Separator.

An effective and very simple device for separating solid particles and water from the gasoline as it enters the carbureter is the tee connection shown in the sketches. The gasoline pipe is probably 1-8-inch pipe size and the union to the carbureter the same size. Both the pipe and the union can be threaded into the tee and a short 1-8-inch pipe 1 or 2 inches long is threaded into the bottom connection of the tee and is closed by a removable cap or petcock. The flow of gasoline through the tee will be slow enough to permit water and solid particles to setttle in the bottom pipe. Evidently the tee can be connected with ease, and without change in the length of the gasoline pipe, whether the carbureter connection is in the side or bottom. The threaded connections should be sweated together so vibration will not start leaks, this being a prolific source of trouble with poor joints.

ABOUT REPAIRING BROKEN CYLINDER CASTINGS

By M. E. WILSON.

WE recently had a couple of standard cylinder castings cracked as a result of the connecting rods breaking loose, and as we were too busy to await the arrival of new ones we set to work to repair them. No. 1 shows the first casting, which was cracked around the cylinder head just above the top of the piston stroke. Three one-inch holes ("*A*") were first drilled in the water jacket to examine the injury. Through these holes the crack was cleaned and "Smooth-On" put on; then a little solder was run into the crack on the inside of the cylinder. These holes were afterwards plugged with ordinary one-inch threaded plugs. Next, three 3-8-inch set-screws were run through the jacket and gradually set down against the cylinder head, offering little resistance to the flow of water and reinforcing the head immensely. This cylinder has been in use ever since—over four months—and we have discovered no signs of a leak nor any indications of weakness.

Another pair more seriously damaged is shown in No. 2 and No. 3. In this the crack was higher up, towards the center of the head. The crack was filled like that in the first casting and up seemed to be needed, however, and as the hand-hole plate on the top of the jacket was too light to hold screws, an iron strap was finally bound over the head and fastened with bolts ("*E*") through the lower part of the jacket, between the cylinders.

One end of the base plate of this casting was broken off, including the lugs for the bolts which hold the cylinder casting to the crankcase, and the repair made of this is also shown in No. 2 and No. 3. A dovetailed, overlapping brass corner was four set-screws ("*A*") put in to reinforce it. Some support higher moulded on and fastened by screws at "*C*," and the entire base was then reinforced by an iron band ("*D*") around it. As this was still not strong enough to take the strain of an explosion in the cylinder, a strap ("*B*") was put on, held to the side of the cylinder by the jacket hand-hole studs, with its lower end bent over and drilled to take the bolt through the crankcase. This cylinder, like the other, is still in commission and, considering its apparently hopeless condition when the job was undertaken, it runs surprisingly well. These two cases are striking illustrations of the fact that few repair jobs are absolutely hopeless.

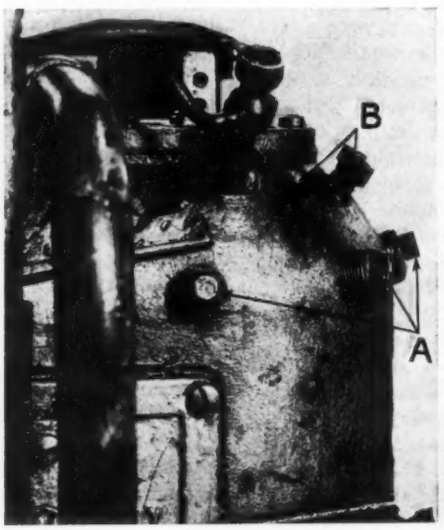


Fig. 1.

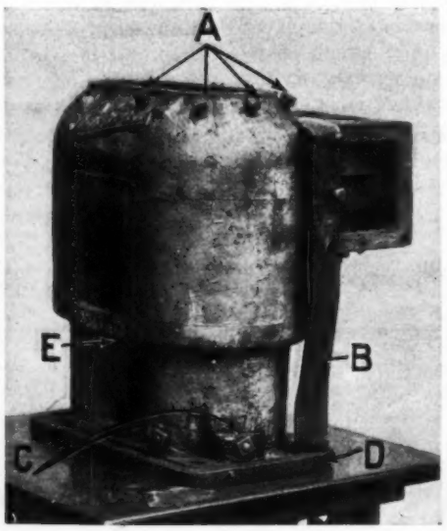


Fig. 2.

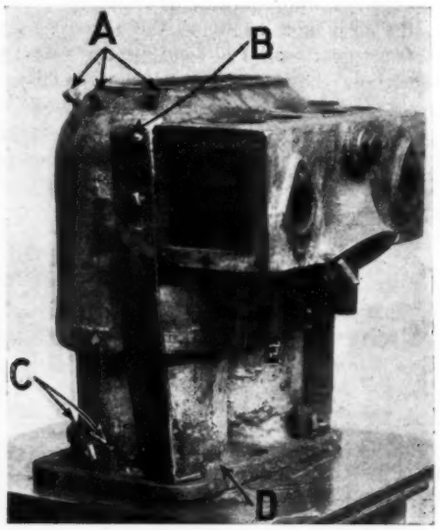


Fig. 3.

Reading from left to right, the illustrations show the manner in which two badly cracked cylinder castings were made sound. The first job is shown by the left-hand photo alone (Fig. 1), the letters A and B indicating the location of the holes made for examination, and the set screws. The other two pictures (Figs. 2 and 3) illustrate what was apparently a hopeless job, but which, with a little ingenuity, was remedied at practically a nominal outlay. The average repairman would have given up without attempting to fix it.

WHAT IT MEANS TO STOCK COMPLETE REPLACEMENTS

By JAMES E. COUZENS, Secy. and Treas. Ford Motor Company.

IT is as important to be able to fill a repair order as it is an order for a new car, and one of the principal troubles with so many automobile manufacturers is their inability to ship repair parts without keeping the purchaser waiting indefinitely.

Before the Ford Motor Company was organized I made up my mind that when I entered the manufacturing line I would make it impossible for a customer to fail to get any repair he might order, even if I had to dismantle a new machine to take care of the repair order. And when the Ford Motor Company was started that fact was kept in mind, and to-day a Ford owner anywhere in the world can order any part for a car, from a screw to a wheel, on any model, and have it shipped the day the order is received. We have to date made eight distinct models, but we carry a stock of repairs for each of them, and not only of each model, but for each little change made in each model, every one of which is carefully catalogued.

This is absolutely necessary and by putting yourself in the other man's place you will realize it. Suppose you are making a tour in the car you bought a couple of years ago, you have an accident and wire in for repairs. After waiting a day, suppose the house wires back "Account of machine being out of date cannot furnish repair parts ordered." How does that help you forty miles from nowhere? If we found that our parts department could not get the repair parts on the way in two hours, there would be another set of men for that department.

It costs money—lots of it—to maintain such a department. A quarter of a million dollars is easily invested in that way. Just the other day we issued a manufacturing order to make a one-hundred-thousand-dollar stock of parts for repair orders. But it's money well spent, for a satisfied customer means a recommendation of Ford cars to all his friends, and these personal recommendations are our biggest advertisements.

LETTERS INTERESTING AND INSTRUCTIVE

CORRECTING A WORN VALVE-SETTING.

Editor THE AUTOMOBILE:

[1,483.]—We have a Rambler two-cylinder car on which the factory setting of the valves is represented by the enclosed sketch. This is not as we think it should be, and we would like to have your opinion as to the advisability of changing the original setting. We enclose a second diagram showing how we think the valves should be set, but do not like to do this without first consulting you, and are accordingly taking the liberty of asking if you will help us out. EDWARD C. STILL.

Hamilton, N. Y.

If the car be an old one, the valve timing shown by your sketch illustrating the original setting of the valves, Fig. 1, would appear to be the result of wear, as this always tends to retard the valve operation. The intake appears to open quite late—almost 30 degrees on the circle of the flywheel, as shown by the sketch, whereas its opening should follow the closing of the exhaust valve as quickly as possible. The opening of the exhaust valve is also very much retarded, and, without knowing the circumstances, we should say that a motor with the valves set in this manner would be far from giving its rated output, and should think that it would tend to overheat considerably, particularly at high speeds, where it is desirable to give the exhaust valve quite a substantial lead. The closing of the intake valve appears to be the only part of the operation that is approximately correct, but this also seems to be retarded somewhat beyond what is consid-

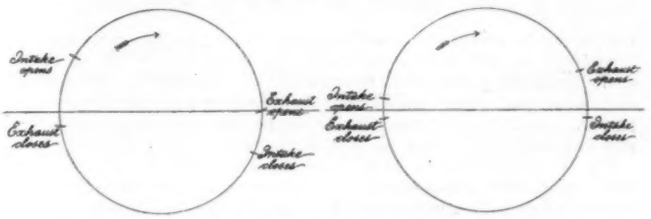


Diagram of Valve Action with Suggested Remedy.

ered as good practice by a great many designers, the majority holding it open not to exceed 15 to 20 degrees on the circle. We think it would also be advantageous to make the closing of the exhaust valve correspond more closely with the upper dead center.

Regarding your second diagram showing the valve-setting that you propose, Fig. 2, we should suggest making the closing of the exhaust and the opening of the intake closer together. The opening of the exhaust valve appears to be about right to get the best results, unless the motor is designed to produce its normal output at a rather low speed, say 800 r.p.m. or less, in which case the exhaust could be held closed for probably 10 degrees later. The intake valve is not held open long enough, according to this diagram, as suggested in our criticism of the original valve setting. Unless the car is an old one, in which case the trouble might be due either to worn contact faces, such as on the cam, tappet rod and the like, or to displacement of the cams on the camshaft, it may be that an error has been made in assembling, but in view of the numerous and painstaking tests through which the majority of manufacturers now put their motors this hardly seems probable. If the cams be integral with the shaft, it may be that the timing gears are improperly meshed, and upon comparing your two diagrams this seems to be likely in the case of the intake, as its lateness of opens corresponds with its delayed closing, but this does not hold good in the case of the exhaust, only the opening of which appears to be delayed. With the exception of the point of closing of the intake valve on your proposed diagram, the latter corresponds closely with present approved practice.

CARBURETERS USED IN THE GRAND PRIX.

Editor THE AUTOMOBILE:

[1,484.]—In your July 2 issue is a table of mechanical features of the Grand Prix racers and reference is made to carbureters, viz., perpendicular currents, parallel currents, converging currents, etc. I wish you would publish some information concerning these so that I could get some idea of what they refer to. I wish you would publish a description of the Mercedes engine that won the Grand Prix. AUTO ENGINE WORKS,

St. Paul, Minn. J. D. MOONEY, Pres.

The abbreviations you refer to are employed to indicate the manner in which the main air supply entered the carbureter and passed the gasoline nozzle. "Perpendicular currents," for instance, means that the air passed the gasoline nozzle perpendicularly; "parallel currents" indicates that two currents of air are led by the nozzle, while "converging currents" that two currents of air are brought together at the point of the nozzle. We must confess that we have never seen carbureters described in this fashion before, and on looking the matter up, find that our Paris representative has literally translated the French descriptions of the cars. Of course, these are perfectly legible to the Frenchman, but we do not wonder that you wished further light on the subject to make them intelligible. You will find a description of Lautenschlager's Mercedes, which also applies to the other cars of the same make, on page 137 of the July 23 issue of THE AUTOMOBILE. This is not as comprehensive as it might be, but the car is a specially designed racing machine and this represents the extent of our present knowledge.

QUERIES CONCERNING FUEL CONSUMPTION.

Editor THE AUTOMOBILE:

(1,485.]—Would be pleased to have you answer the following in "Letters Interesting and Instructive": Compared with similar cars in general, what can be regarded as a fairly economical consumption of gasoline per 100 miles for a 2,500-pound touring car with 6 by 7-inch opposed motor when carrying five passengers on average country roads?

With car and load identical in other respects, what per cent. more fuel (if any more) will be used by four-cylinder motor than two-cylinder opposed of same rating, traveling same road? Compared with 6-inch by 4-inch opposed motor, about how much more fuel will be required by good 4 1-2 by 4 1-2 cylinder vertical two-cycle motor, other conditions being the same?

Is there any preparation to be had which will prevent or lessen the accumulation of rust in cooling water in an automobile?

Pleasant Lake, Ind. C. A.

Five to six gallons would be an economical showing for this distance, but the consumption would naturally vary according to the amount of low-gear work that was necessary, as well as with the character of the road surface. On a good road, such a car as you mention ought to be capable of covering 17 or 18 miles to the gallon. The difference between this and the consumption of a four-cylinder motor of equivalent power in the same car would not be very great, though readily perceptible. Doubtless such a car would average 15 to 16 miles to the gallon under similar circumstances. As compared with the two-cylinder opposed horizontal motor of the four-cycle type, the four-cylinder, two-cycle motor might use anywhere from 10 to 50 per cent. more fuel, according to the efficiency of its design. Unfortunately, the two-cycle motor has not been brought to the same degree of standardization that characterizes the four-cycle, so that it is naturally difficult to make comparisons of this kind that will hold good generally. It is safe to say that the two-cycle, four-cylinder motor will require considerable more fuel than the two-cylinder, four-cycle, as the two-cycle is not as economical as the four, and adding to the number of cylinders always tends to increase the consumption, but just what this excess would be cannot

be stated definitely, as two-cycle motors of some makes are known to operate very much more economically than others.

There are numerous boiler compounds on the market that are intended to prevent scale and rust on the interior of a boiler and we have no doubt they would be found equally effective in the case of an automobile radiator. Probably more so, as the conditions in the latter are not so bad, in that the water seldom actually boils away to any great extent, so that scale-forming conditions are not present.

AN IDEAL THAT IS ALREADY "ON WHEELS."

Editor THE AUTOMOBILE:

[1,486.]—I have read so much this year about the "ideal car" that I, an old subscriber to "The Automobile," would like to have my say. My "ideal" is not a "dream on paper," but a "dream on wheels," the 1908 Model M Pope-Hartford. Now, I haven't come to this decision from merely looking at the specifications of the 1908 Pope-Hartford, although this alone is quite convincing. But when you consider that my 1907 Pope-Hartford was driven 10,000 miles through four States over variable roads and at a good speed, as I like to go fast, and never failed to take the opportunity to let her out, all of this strain without one repair of any kind whatsoever and with but a 25-cent replacement (a part of the magneto), you can see that my decision is based upon sound facts brought to light by experience.

The 1908 Model M Pope-Hartford "30" touring car has all of the standing up qualities of the 1906 Model F and the 1907 Model L, and the wonderful hill climbing ability also, but with the luxury of any $5,000 car built and the style and general appearance of the most costly foreign or American cars. But just think of the comparatively low first cost and the very low upkeep. What more ideal car would the idealist want?

I am in no way connected with the trade, but just one of many enthusiastic Pope-Hartford owners. E. D. R.

Spring Lake, N. J.

Your ideal is the first tangible one to come to light, and those who are indulging in "dreams on paper" for future investment might well follow your example and indulge in a "dream on wheels," as some of the proposed ideals will take a long time to materialize and undoubtedly many of them will never reach that state.

(The writer of the foregoing letter has requested us to give his name and address to any inquirers, but did not care to have it published in this connection.—ED.)

ANOTHER IDEALIST IS HEARD FROM.

Editor THE AUTOMOBILE:

[1,487.]—Every little while someone writes about his ideal car, so I think I will add mine to the collection. Engine, three-cylinder, two-cycle, 30-horsepower, thermo-syphon circulation, three-point suspension, internal expanding clutch, three speed and reverse selective type of change-speed gear-set, and a unit power plant. Atwater-Kent spark generator. Wheelbase 105 inches, 36 by 4-inch tires on Fisk detachable rims, full elliptic springs with Hartford-Truffault shock absorbers. Pressed steel body with detachable tonneau. All trimmings that are usually brass, such as levers, etc., to be gunmetal or copper oxidized finish; also lamps, speedometer, windshield trimmings and the like.

I believe that if half the time that is spent in polishing brass were used to keep the engine and transmission clean and in proper shape, owners would get better service out of their cars.

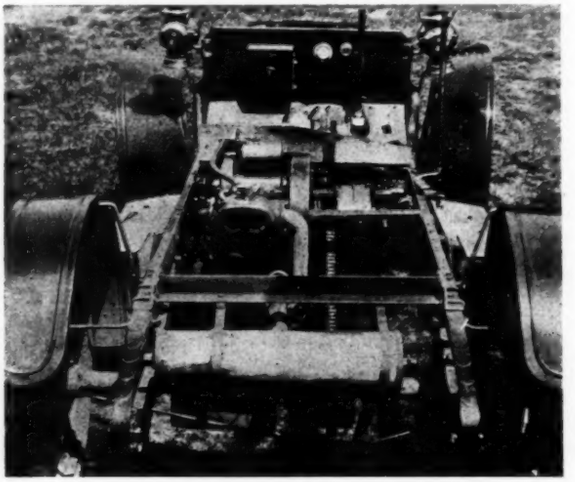
Paterson, N. J. ANTI-BRASS.

As is the case with another contributor to the list of ideals, yours seems to be one that is already on wheels and not merely in the paper stage, as the specifications you quote sound strangely familiar and read something like a catalogue. In other words, it strikes us as if you were describing the Elmore three-cylinder two-cycle car. We quite agree with you on the subject of brass polishing and it is noticeable that the tendency in this direction is quite general. A plethora of fine brass work to polish is certainly out of place on the car when its owner is also its driver and caretaker. There is nothing quite so ornamental as brass trim when it is kept in proper shape, and likewise there is nothing that looks quite so disreputable when it is neglected as that same brass work. For the autoist who employs a man to do nothing but drive and look after his car continually, this does not involve any hardship, as a good car does not require a competent man's entire time to keep it in shape, no matter how much it is run. But where the owner is his own chauffeur it is quite another story. Polishing brass is rather a lazy man's job and takes considerable time, which, as you say, might much better be applied to keeping the mechanical details of the car in shape.

INCREASING HORSEPOWER OF AN OLD CAR.

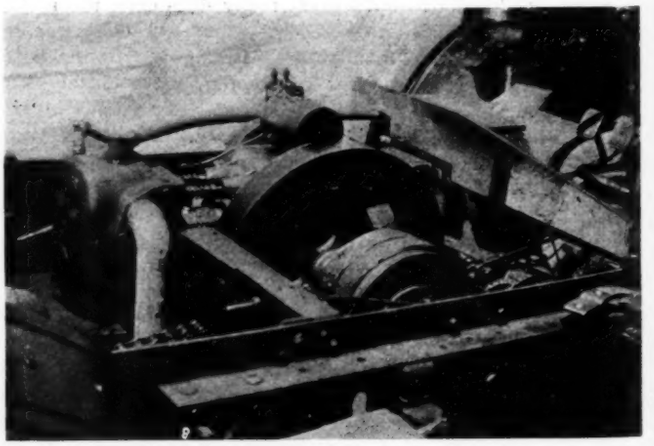
Editor THE AUTOMOBILE:

[1,488.!—In your issue of "The Automobile" of June 25 you published a letter from Joseph Sylvester, of Jamaica, N. Y., in which he made an inquiry as to whether he could install a two-cylinder 10-horsepower motor on a 6-horsepower chassis. You advised him not to try it, and as he does not state the make of car it would be impossible to say whether it would be of advantage in his case or not. Enclosed please find two photos of a remodeled one-cylinder Pope-Hartford. The motor is a Bellfus two-cylinder, 18-20-horsepower. As it is the same make as he inquired about and which you expressed ignorance of, I will say that it is all to the good.



Rear View of the Remodeled Chassis.

Fig. 1 shows chassis view. At the rear can be seen the muffler; and this also shows how wheelbase was lengthened six inches by use of three-quarter springs. Fig. 2 shows the power plant. The forward cylinder is just under the footboards. The car was also changed from a rear entrance to side entrance, this being made possible by the lengthened wheelbase. The car now carries five people comfortably and has a maximum speed of 47 miles per hour. New parts required were as follows: Engine and timer, oiler, three-quarter springs, one foot of chain, two dash coils, new mudguards, copper gasoline pipe, gas tank being moved forward under the bonnet. The old one-cylinder engine is sawing wood. DOUGLAS ADAMS.



How the New Power-plant Was Installed.

Keene Valley, N. Y.

The job of installing a larger power plant on an old car such as you refer to, and that afforded by the problem submitted to us by the inquirer in question, are two very different things, as you will see by again referring to the specifications he gives in his letter. The substance of his

inquiry was whether it would be advisable to install a twin-cylinder horizontal engine of the same power as the vertical engine originally placed on the chassis, i.e., 6 horsepower, in order to overcome the excessive vibration, or whether it would be better to employ a 10-horsepower engine of the twin-cylinder opposed type. We are of the opinion that it would not pay the inquirer to do either with nothing better than the chassis he described to build on, and because you have succeeded in installing an 18-horsepower motor on a chassis well adapted to carry it does not suffice to alter his opinion. You have evidently made a very good job of rebuilding your car, to judge from the photographs submitted and published herewith, and there are doubtless many old-time cars that could be similarly improved.

PLACING A NEW CAR ON THE MARKET.

Editor THE AUTOMOBILE:

[1,489.]—I am a member of a company which has developed a gas engine especially desirable for auto vehicle work of all kinds, and as we are not fully convinced in regard to the style of vehicle with which to introduce our engine, I am taking the liberty of addressing you on this subject. Your intimate knowledge of the field and its wants will enable you to give me some helpful suggestions. If you will kindly answer the enclosed list of questions I will greatly appreciate it:

(1) What in your judgment would be the best vehicle for us to make first—Runabout, touring car, roadster, freight truck, or light delivery wagon? If roadster, what horsepower?

(2) If runabout, what horsepower and price? Same with regard to touring car, truck and delivery wagon, this constituting questions 3, 4 and 5.

(6) Which of the above could be most readily sold and which would be the most profitable?

(7) Which class of vehicle will be in the greatest demand in the future? A. C. H.

Los Angeles, Cal.

(1) Considering all the circumstances, we should think the building of a standard chassis upon which could be fitted a runabout, touring, roadster or light delivery wagon body would be the most advisable manner of starting. Twenty horsepower would be ample for a light car, and to keep it within the bounds of general demand in the various rôles it has to assume it should not exceed 25-30 horsepower. This also serves to answer your questions 3 to 5 inclusive. No. 6 is rather more difficult. At the present time the pleasure vehicle is easier to sell and may, in consequence, be put down as more profitable in a new enterprise.

(7) There is no doubt that the commercial vehicle will be in great demand as progress and education in its use develop, but it is likewise quite apparent that the demand for the pleasure vehicle must be equally great, as it is constantly being brought within the reach of an increasingly greater proportion of the population.

ABOUT THE BEST ROUTE TO SARATOGA.

Editor THE AUTOMOBILE:

[1,490.]—I should be much obliged if you would kindly inform me in your columns of "Letters Interesting and Instructive" what is the best road to take to go to Saratoga, good roads being desired. Also, what is the best road at this particular time for going from Albany to the Berkshires? I have heard that the road usually given in the road book is now being repaired, and is, therefore, in very bad shape for a good part of the way. J. R. PETERS.

South Orange, N. J.

The best way from South Orange to Saratoga is via Newark, Newburgh, Poughkeepsie and Albany, which is covered entire by the following references to the 1908 Blue Books: Newark to Passaic, Ridgewood and Hohokus, N. J., pages 101-103 of Vol. 3, connecting at Hohokus with the New York-Tuxedo-Newburgh route, pages 99-100 of the same volume, giving the exact mileages, with full running directions to Newburgh. Descending to the ferry and taking same to Fishkill Landing village (not Fishkill village proper, which is four miles farther inland), immediate connection is had with the New York-Poughkeepsie route in Vol. 1 (last part, pages 79-80), which will carry to Poughkeepsie. See (particularly) in this connection the Fishkill Landing diagram, page 73, which will make this part of the route clear.

Poughkeepsie Section Route No. 2 (pages 276-281 of the New York book, Vol. 1) will extend the run to Albany by exact mileages and reliable information throughout. Albany Section, Route No. 8 (pages 328-329 of the New York volume, No. 1) will carry you through to Saratoga by what is generally considered the best of the several available routes, though this line was not revised new for 1908. Your information as to the repairs being made to the Albany-Pittsfield usual routes this year is correct, an emergency which is covered by a special route via the Post Road, Valatie, Chatham, Stockbridge and Lenox (pages 305-307 of Vol. 1, New York State volume). Except for the unusual conditions between Albany and Pittsfield, the roads mentioned are good practically throughout.

INCREASED MILEAGE WITH LESS PRESSURE.

Editor THE AUTOMOBILE:

[1,491.]—As you are probably aware, I have made very considerable experiments to find out, firstly, whether reduced pressure decreases the speed of the vehicle fitted with pneumatic tires or not; secondly, whether decreased pressure decreases or increases the life of the tire. The first series of tests prove that reduction of pressure in the tires makes practically no difference in speed.

The second series of tests prove that you can use your tires with less pressure than was commonly thought, and, therefore, the whole car rides more easily and smoothly, and at the same time the tires actually last longer. The tests have all been carried out on the road on my own six-cylinder Napier.

The weight of the car complete, as I generally drive it, was a shade under 35 hundredweight. The result was that with 60 pounds pressure in the front tires, 880 by 120 mm., they ran 88 per cent. further than when the pressure was kept at 70 pounds to the square inch, and when the pressure of the back tires (895 by 135) was reduced from 85 pounds to 70 pounds, I got an increased mileage of 49.9 per cent. It is, therefore, clearly proved, that reduced pressure means greater comfort on a motor car and less expense in tire bills.

I am now carrying out experiments with still lower pressures, but owing to the distance one has to run, it takes a considerable time to obtain results. S. F. EDGE.

London, Eng.

This is an extremely interesting line of experiment and one that is of vital importance to automobilists at large, particularly as the results shown run directly counter to the prevailing impressions on the subject, tire manufacturers without exception cautioning users at all times to maintain their tires well inflated. They also go counter to the reasons that tire makers and tire experts have advanced for keeping pneumatics well inflated, in that a good pressure prevents the side walls of the tire from bending so much, which is given as the chief cause of rapid wear, and especially of that bugaboo of the autoist, blowouts. Further data as the result of carefully carried out investigations will not only be of great interest but should prove valuable.

AN UPHOLDER OF THE FRICTION-DRIVEN CAR.

Editor THE AUTOMOBILE:

[1,492.]—Referring to your letter No. 1,452, I would like to say that I think if Mr. Meiser will get the right kind of a friction drive car, it will prove very satisfactory. There are a great many hills in Southern California, having driven an Earl roadster all over the hills around here.

Was there ever an eight-cylinder Darracq in a Vanderbilt Cup race? WALDO D. WATERMAN.

San Diego, Cal.

We have no doubt that friction-driven cars are making a success in practically every part of the country, or it would not be so easy to introduce them. But only the man who owns and drives such a car knows what it can do.

There was never an eight-cylinder Darracq used in a Vanderbilt cup race. The car you evidently have in mind was the Darracq, driven by Demogeot in the straightaway speed trials at the Ormond-Daytona meet, January 29, 1906, and in which he made the record of :58 2-5, in the two-mile-a-minute race.

COMMERCIAL MOTOR VEHICLES NUMEROUS IN INDIANAPOLIS

INDIANAPOLIS, IND., July 27.—There are few lines of business in this city that do not use, in some form or other, an automobile runabout, delivery wagon or truck. It is only within the last two years, however, that the delivery wagons and trucks have attained anything at all like popularity.

In the first place, the city is well adapted to the use of motor commercial vehicles. Streets are well paved and well kept; there are no hills and the expense of up-keep is materially lessened by the maintenance contract that has become quite popular within the last eighteen months.

The maintenance contract, in fact, has doubled the use of the automobile for commercial purposes in little more than a year. Under it the selling agent agrees to keep the vehicle in service every day in the year for a specific amount each month. The truck or delivery wagon is to be left at the agent's garage over night, when it is thoroughly overhauled and cleaned. If it breaks down in service an emergency car is sent to take its load and finish its work for the day.

There is only one instance recorded in Indianapolis where a business concern has discontinued the use of automobiles. An investigation revealed that this was a firm of undertakers that used an electric runabout night and day for five years, then discarded it for the very good reason that it was badly worn out.

With one exception, all local department stores are using commercial vehicles; a firm of plumbers have had built a very successful delivery wagon with a Marmon chassis as a basis; wholesale and retail cigar dealers, manufacturers of food products, wholesale and retail grocers, furniture dealers, brewers, piano dealers, express companies, parcel delivery companies, hardware merchants, manufacturers and many others are successfully using delivery wagons and trucks.

The latest acquisition is an immense gasoline van just placed in service by a firm of household goods movers. The company also sells second-hand furniture, so that the big van is used both for delivering furniture and moving household goods. This is the first company of its kind to use a motor vehicle.

There are about 250 runabouts and touring cars in the city used for business purposes, many of which are used by city and traveling salesmen. During the last year half a dozen implement and farm machinery companies have equipped their salesmen with runabouts. The public utility corporations and the various municipal departments have automobiles in service.

Both those who sell and use automobiles for commercial purposes say that the motor wagon and truck has come to stay.

AUTOMOBILES NEEDED IN CEYLON.

In a report from Colombo, Consul E. A. Creevy states that there is a considerable market for automobiles in Ceylon, which needs only proper development. Some 1,200 tea and rubber estates are situated on the island, and as railroads are still very few practically every one of these could make good use of an automobile. The question is whether the need would be recognized by the expected purchasers. At present there are only about 200 cars in use, and only one of them of American make.

The conditions demand a machine which is a good hill-climber, reasonable in cost, and economical in operation. The importance of the last requirement may be seen from the fact that the Colombo price of gasoline is 50 cents a gallon. The island is very mountainous, and most of the plantations are reached only by narrow roads with heavy grades and sharp turns, where the driver is liable to find himself confronted at any moment by a bullock cart taking up the whole width of the roadway, with a rocky wall on one side and a precipice on the other.

No business can be done by means of catalogues only. The manufacturer who wishes a share of the Ceylon market should begin by sending out a representative with a sample of his machine, with the assurance that a supply of parts would be kept at Colombo. This last condition is essential, as it is useless to expect a purchaser to place himself in the position of having to wait, in case of accident, three months for a part to be shipped from the United States. The three companies at present handling autos in Ceylon are listed at the Bureau of Manufactures.

USES A HORSE IN HIS GARAGE.

A horse in a garage certainly seems out of place, but that is what the curious may see any day in Asbury Park, N. J. The idea originated with William Powell, night foreman of the Zacharias garage. He uses the animal to haul the cars to and from the washing stand, instead of having them pushed by manpower, and says he gets the moving done in one-third the time. There is also a considerable saving in wages, as some five or six men are dispensed with by the new arrangement. The plan is very simple. The horse is direct-connected to the front of the car, transmitting his power to the rear hoofs without the use of a clutch; a chauffeur specially trained in the language of "gee" and "haw" takes the wheel, and away they go. The present record to and from the stand is between 40 and 50 seconds.

WASHINGTON'S AUTO MAIL COLLECTING.

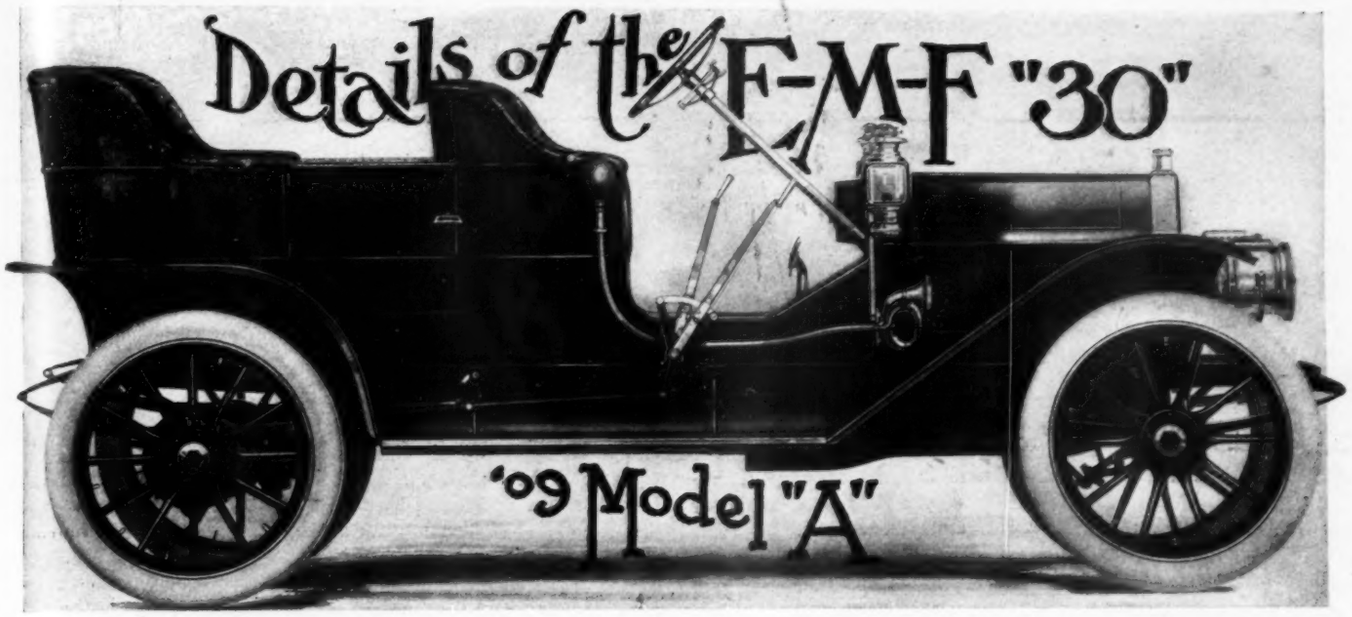
WASHINGTON, D. C., July 20.—Two single-cylinder Cadillacs have been purchased by the postal authorities of this city for the purpose of determining the advisability of substituting automobiles for the present horse and wagon system of collecting mail. A special appropriation of $1,440 was secured for this purpose and out of this sum the cars must be maintained for a certain period. The routes selected for the two automobiles, which will be put into service on August 1, are located in the upper and lower parts of the city. While the cost and maintenance of the two automobiles is $60 more than that now allowed for the horses and wagons, the use of the automobiles will result in the saving of two letter carriers, who are to be assigned to the delivery service. If the results achieved with the automobiles prove satisfactory it is likely automobiles will be substituted entirely for the horse and wagon collection service throughout the District of Columbia.

AUTO TRADE DIRECTORY FOR JULY, 1908.

The *Automobile Trade Directory*, which is issued quarterly by the Class Journal Publishing Company, 231-241 West 39th street, New York, has just made its appearance for July, 1908. It is now a volume of 384 pages, thus exceeding in size any of its previous issues, and it is correspondingly more replete with information of a nature that every designer, purchasing agent, garageman, or, in fact, anyone who has to do with the automobile industry, has pressing need for at one time or another. It is the aim of the publishers to make it a most complete compendium of the American automobile industry, and a review of its pages leaves no doubt as to the manner in which they have succeeded in carrying out this work. Every manufacturer of anything pertaining to the automobile, whether directly or indirectly, is listed in a manner that makes reference easy and saves much useless searching, while there is also a great deal of information in the shape of data that is of considerable value.

The tax imposed upon foreign automobiles entering Germany has yielded only 1,618,834 marks instead of the 3,500,000 marks expected. In addition it has deprived the country of other and more important revenues, and altogether has proven itself to be the unsatisfactory legislation that its opponents predicted.

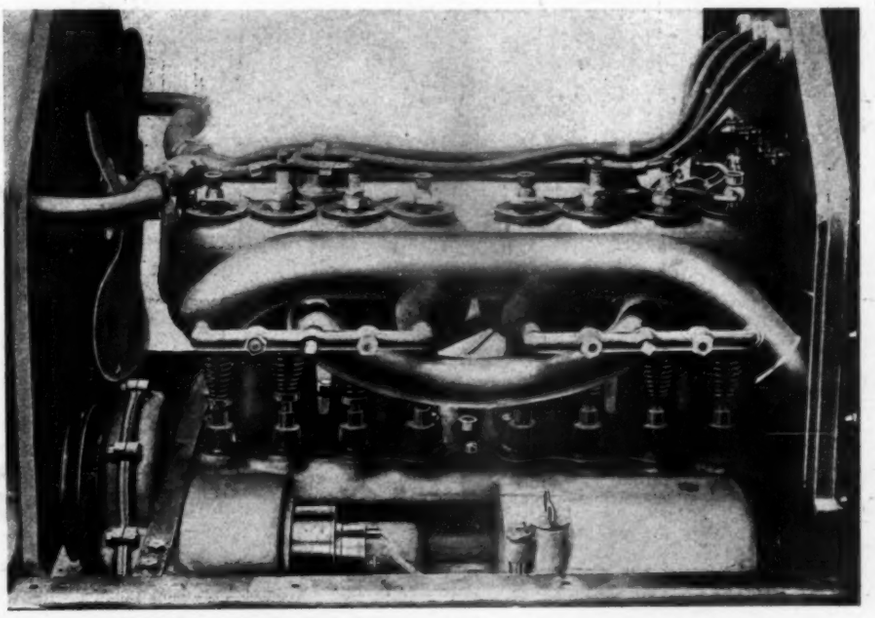
Details of the E-M-F "30"



WITHIN the last few months a new descriptive term has come into vogue in automobiling. It is the word "classy," and, in a few letters, it conveys more about the appearance of some of the new medium-priced cars that have been responsible for its creation than a ream of description. Hence, the publicity statement that the new Everitt-Metzger-Flanders production is the "classiest thing on wheels at its price." That there is ample justification for this will be evident when the foregoing illustration of the new E-M-F "30," which is its official title, is viewed with the knowledge that here is a modern four-cylinder machine, of the most approved design and construction, to sell complete for $1,200.

But it is not all appearance by any means. The official announcement of the consolidation of the Northern Motor Car Company and the Wayne Automobile Company, both of Detroit, and the experience and standing of such men as Messrs. Everitt, Metzger and Flanders in the automobile industry is a guarantee that the car will be all that is claimed for it, while the backing of men like William T. Barbour, J. B. Gunderson, Charles L. Palms and J. B. Book goes to show that the new company will have almost unlimited resources and intends to do things on a scale that makes the building of a modern four-cylinder car at this price a possibility.

However, the car really speaks for itself, as the following specifications go to show. A perusal of these makes it plain that the machine is what has generally come to be accepted as standard construction. There are no freak innovations or radical departures of any nature. The 30-horsepower motor has its cylinders cast in pairs with the water jackets integral and valves all on one side. The latter are interchangeable, and are mechanically operated. The cylinder dimensions are 4-inch bore and 4 1-2-inch stroke, the motor being designed to produce its rated power at a moderate compression and speed, factors which make for durability. A feature that will be generally commended by both designers and users alike is the elimination of the aluminum alloy supporting arms of the motor. This material is employed for the crankcase proper, but the weight of the motor is carried on pressed steel arms of "U" section, which do not weigh any more than the usual aluminum supports, but which are far stronger and much more flexible, thus insuring greater safety at this vital point.

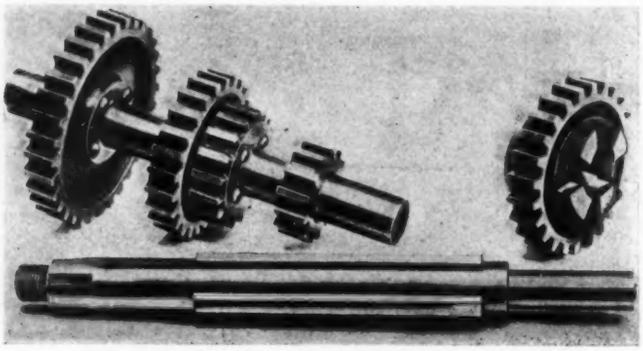


Working Side of Motor Showing Magneto and Lubricating Oil Reservoir.

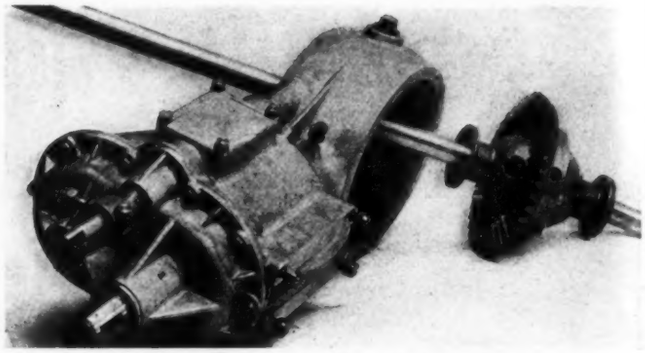
Details Have Come in for Painstaking Attention.

In going through the specifications it will be evident that while standard practice has been closely followed, it has not been slavishly adhered to, detailed refinement and improvement having been made wherever the designers thought it necessary. For instance, the valve guides are machined and pressed into place on the cylinders, instead of being cast integral with the latter, thus making it easy to replace them when worn. The valves themselves are very large, measuring 2 1-8 inches in diameter, and are drop-forged from special steel, both the stems and seats being accurately ground. In addition to providing ample sized valves, the inlet and exhaust passages have been made very large and unobstructed.

The single camshaft of the new E-M-F "30" is made in one piece, with



Main and Countershaft of the New E-M-F Gear-set.



Aluminum Housing for Gear-set and Differential.

the cams integral, the piece being case-hardened after milling out the cam contours to machine finish, and the latter are then ground and "miked." That is, tested with a micrometer gauge reading to thousands of an inch, and it is by such painstaking care in the manufacture of the parts of a car that silent and efficient running is insured. The crankshaft is drop-forged from special steel, and is supported on three main bearings of babbitt, offset 3-4 inch from the center line of the cylinder, thus relieving the walls of the latter from excessive side strains. A flange, forged integral with the shaft, carries the flywheel. Connecting rods are steel drop-forgings of I-beam section, big ends being of the marine type, while phosphor bronze bearings are provided at the piston-pin end. Shims are provided for the adjustment of the die-cast babbitt crankpin bearings, and this may easily be effected through the large hand holes in the bottom of the crankcase. The latter are closed with sheet steel covers, in place of aluminum, as is usually the case. Five-inch pistons are used, fitted with four compression rings, both the piston and its rings being accurately ground to size. The hollow piston pin is a piece of case-hardened steel, and is also ground. All the moving parts of the motor are carefuly balanced mechanically to reduce vibration to the lowest possible point.

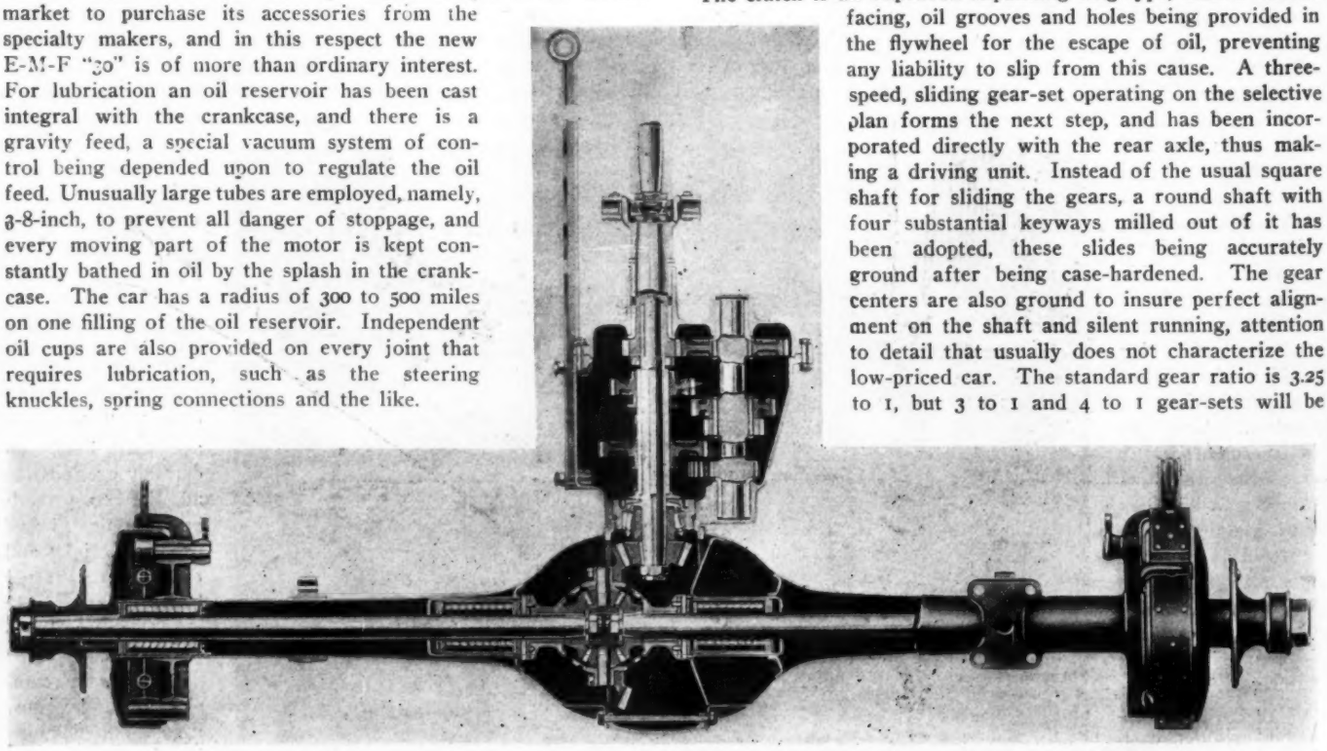
Motor Accessories Are of Interest.

It has been usual hitherto in placing a low-priced car on the market to purchase its accessories from the specialty makers, and in this respect the new E-M-F "30" is of more than ordinary interest. For lubrication an oil reservoir has been cast integral with the crankcase, and there is a gravity feed, a special vacuum system of control being depended upon to regulate the oil feed. Unusually large tubes are employed, namely, 3-8-inch, to prevent all danger of stoppage, and every moving part of the motor is kept constantly bathed in oil by the splash in the crankcase. The car has a radius of 300 to 500 miles on one filling of the oil reservoir. Independent oil cups are also provided on every joint that requires lubrication, such as the steering knuckles, spring connections and the like.

Doubtless the most unusual feature of a car to sell at such a low price is the fitting of a magneto as a part of the regular equipment, the makers stating that "it is as much a part of the E-M-F motor as are the valves." The magneto is a part of the design, and is permanently attached, the gears and all moving parts being enclosed in an oil-tight and dust-proof case. It is fitted so as to be readily removable for inspection. In addition to the magneto there is an emergency system of ignition, consisting of a quadruple unit dash coil, in the high-tension side of which an innovation has been made by connecting the leads through the back of the mahogany case and the dash directly to the plugs. The timer is an improved Lacoste type, mounted on a vertical shaft, and driven by bevel gears from the camshaft. Another feature of the motor to be commended is the separate housing of camshaft and magneto gears, lubrication being by non-fluid oil. Cooling is on the thermo-syphon principle, supplemented by a belt-driven fan consisting of a steel stamping, mounted directly on the motor, instead of being attached to the radiator; an eccentric belt adjustment is provided. The carbureter is a simple, single-jet design of the float-feed type, located in an accessible position on the off side of the motor and is an exclusive design that is turned out complete in the E-M-F plant.

Features of the Transmission System.

The clutch is an improved expanding ring type, with a leather facing, oil grooves and holes being provided in the flywheel for the escape of oil, preventing any liability to slip from this cause. A three-speed, sliding gear-set operating on the selective plan forms the next step, and has been incorporated directly with the rear axle, thus making a driving unit. Instead of the usual square shaft for sliding the gears, a round shaft with four substantial keyways milled out of it has been adopted, these slides being accurately ground after being case-hardened. The gear centers are also ground to insure perfect alignment on the shaft and silent running, attention to detail that usually does not characterize the low-priced car. The standard gear ratio is 3.25 to 1, but 3 to 1 and 4 to 1 gear-sets will be



Plan View of the E-M-F Rear Axle Unit Construction, the Main Housing Sections Being of Sheet Steel.

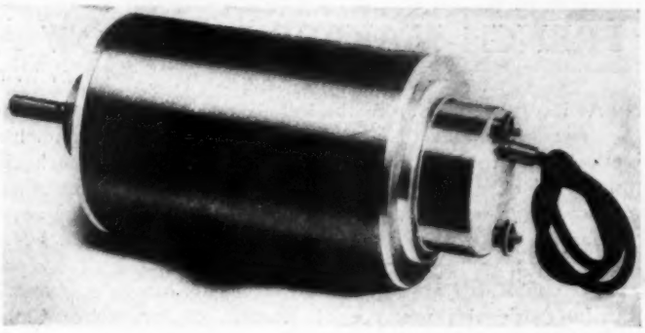
optional with the purchaser. The bevel driving gears have been made unusually large, both these and the sliding gears being turned out of a special alloy steel and accurately cut. Two universals are fitted on the propeller shaft. The differential is of the bevel gear type, something that has hitherto appeared only on the higher-priced cars, with but few exceptions. With the high gear ratio mentioned, the E-M-F is said to be capable of 50 miles an hour, or a range of from 4 to 50 miles on the high gear.

Details of the Chassis and Running Gear.

The rear axle is of the semi-floating type, and its design and construction form a chapter in themselves. Due to the use of drawn steel as the material and autogenous welding for putting the parts together, coupled with its design, this axle is said to weigh less than any other of its type on cars of similar weight and power, notwithstanding that the gear set is incorporated with it. The right and left sections of the housing are drawn from sheet steel and welded by the new process, Hyatt roller bearings in hardened and ground removable sleeves carrying the load. The thrust of the driving pinion is taken on a Timken roller bearing, while the differential thrust bearing is of babbitt between ground steel washers. All gears are in an oil bath, provision having been made to keep the housings oil-tight, and also to prevent oil running out of the axle ends when on an incline, so that the car should be free from dripping oil.

The forward axle is a one-piece drop forging of heat-treated steel, with the spring seats forged integral, the steering knuckles and connections also being drop forgings of steel. The steering gear is of the worm and sector type, these parts being made from specially hardened steel, while all surfaces are ground. The gear-shifting levers have been placed on the driver's right hand, as usual, but the control levers are on the steering pillar at the left and below the wheel, instead of on top, it being easy to operate them with the left hand, without releasing the wheel. An accelerator pedal is also provided. The left pedal operates the clutch and the right the service brake, the usual hand lever, with ratchet lock, being provided for the emergency. The brakes are centered on special drums on the driving wheels, the service brake consisting of camels-hair-lined steel bands, acting on the pressed steel drums, while the emergency brakes expand against the inner face of the same drums, and are of the metal-to-metal type, both sets being double-acting. Pressed steel discs enclose the drums, making them dust-proof.

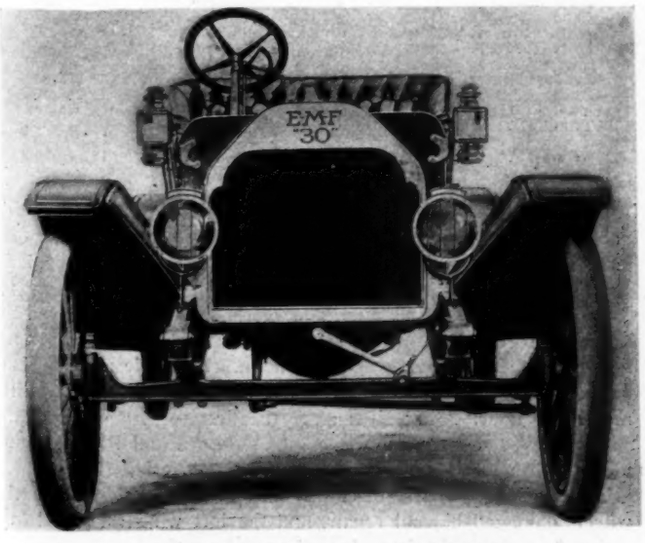
The car is carried on semi-elliptic springs in front and full ellipticsin the rear, unusually large springs being specified for the car's weight. All driving strains and thrusts are taken by two radius rods. The frame is pressed steel of "U" section, the side members being perfectly straight throughout their whole length. Twelve-spoke artillery wheels are fitted, while 32 by 3 1-2-inch Morgan & Wright clincher tires on universal quick detachable rims form this part of the equipment. The makers of the new E-M-F, the title of which, by the way, coincides with the abbreviation for electro-motive-force, or *pushing power*, lay special stress on the grade of materials employed. The cylinders, pistons and exhaust manifold are of the best gray iron; intake manifold of brass, crankcase of aluminum, while the frame, gears, springs, axles and driving shafts are of special steels, heat-treated for the purpose in view.



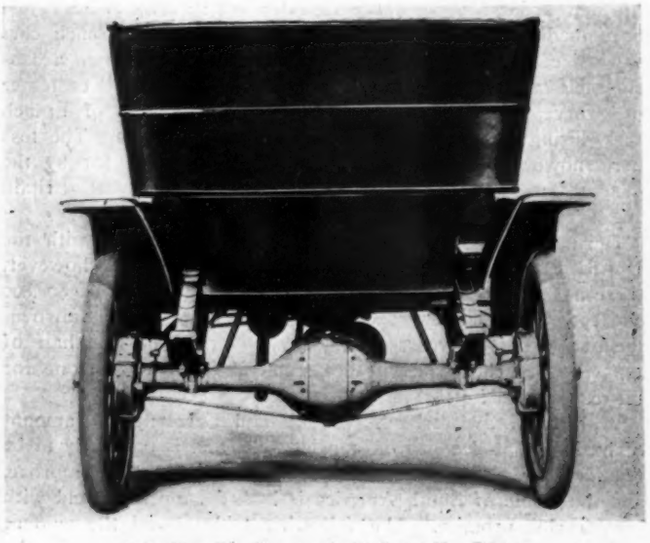
Simplicity of the E-M-F "30" Magneto.

The wheelbase is 106 inches and the tread standard, while the weight of the car is 1,800 pounds. It is listed as a five-passenger touring car, a standard type runabout, single or double rumble roadster, or as a demi-tonneau, which is an E-M-F innovation, this making a smart-looking four-passenger car with detachable tonneau. With standard equipment, which includes a high-tension magneto, beside the usual outfit of lamps, horn, tools and the like, the E-M-F "30" lists at $1,200. It is licensed under the Selden patent, and is the lowest-priced car of its type in the licensed fold, and out of it as well.

In speaking of the new production, W. E. Metzger, secretary and sales manager of the company, states the interest created by the advent of the new car is unprecedented in his experience and the rivalry among dealers to obtain agencies is very keen. "In appointing agents," said Mr. Metzger, "I take into consideration: First, the reputation of the dealer for taking care of his customers. I believe that is the vital point. Then his financial standing. Third, whether he is willing to devote his entire efforts to pushing our product exclusively. I don't always make the last a condition, but it's a strong point in the applicant's favor. I have already signed up for some of the larger cities and I think the names of the concerns will be a surprise."



Front View of the New E-M-F "30."



Axle Construction as Seen from the Rear.

FRENCH MAKERS MAY NOW ACCEPT DISMOUNTABLE WHEELS

By W. F. BRADLEY.

PARIS, July 23.—Before the last of the racing cars had left Dieppe, the racing board of the French club had sent forth a notice calling its members together to consider what steps should be taken for the Grand Prix of 1909. The meeting, which is announced for next week, will have under consideration the regulations for the next annual event and will consider what offers of courses may have been made to it.

It is doubtful if any definite arrangements can be made until the international conference of Recognized Automobile Clubs has decided what rules shall be in vogue for next year, but it is possible for the French constructors to decide what they will support and to bring the matter up for decision at the first meeting of the European body. French constructors recognize that they have been beaten, some of them by the tire and rim element, others by defects in their over-speedy racers, and if early preparation can prevent a repetition of the disaster of July 7 the Frenchmen will certainly not be lacking.

Two possible changes present themselves: that the engine bore should be still further limited in order to reduce the speed to limits that tires can be reasonably expected to maintain, or to allow the use of dismountable wheels in order that it may be impossible for such accidents as happened to the Renault cars to again throw down an entire French team. The French sporting commission has a hankering after the highest speeds in order to impress the public; it will, therefore, hesitate to materially reduce the power of the cars. Some of its most prominent members have a deep-rooted objection to the use of the dismountable wire wheel, commonly seen on Brooklands track, and would not admit it except under strict necessity. But the necessity appears to have come in the last defeat. If dismountable wire wheels, therefore, or a change of wooden wheels under exceptional circumstances can save the situation, they will be allowed.

It is of some interest to note that the dismountable wheel, which is invariably of the metallic variety, originated in England, and since the opening of Brooklands track has been very prominently employed there for racing cars, the change of a complete wheel being effected in considerably less time than is necessary for the dismounting and remounting of a ready inflated tire and rim. As the hub of the wheel was never changed, only the outer shell being taken away, fastening being by means of a single key, the English claimed that the device should be admitted in the French race. To this, however, the racing board would never agree, maintaining that the wheel was a part of the car and as such should be rendered unchangeable.

Now that they have suffered defeat, very largely through their refusal to allow the changing of wheels, there is a sudden change of opinion, many of those in authority being willing to allow the use of the British device. It is never safe to prophesy, but the chances are that next year instead of rims it will be wheels that are changed, and one element of chance will thus be eliminated.

Dieppe has about one chance in fifty of again being the scene of a Grand Prix race. The district will certainly put in its claims and they will be considered by the club, together with probably fifty others; but as there is now no special love for the scene of their defeat, and as innumerable difficulties have arisen with the authorities on the question of roads and general organization, it is more than probable that a new site will be chosen for 1909. Happily there are so many of them in France that it is not merely a question of picking a good set of roads, but also of discovering which district can give the largest indemnity and assist most powerfully in the organization of the contest. The receipts this year were $100,000, and expenses $72,000, leaving $28,000 profit. Anjou is spoken of as a favored bidder for next year, but as yet, trying to name the course is mere quesswork.

FRENCH AUTOMOBILE EXPORTS SHOW A BIG SHRINKAGE

PARIS, July 23.—On the first six months of 1908 French automobile exports show a shrinkage of $1,882,600 compared with the corresponding period of 1907. The amount of business done with foreign countries is also slightly less than during the first half of 1906, but is considerably better than during January-June, 1905. Thirteen nations are on the French trading account, and of these eleven have reduced the amount of their orders during the period for which returns have just been made. Russia has increased her orders for French cars 257 per cent., and the colony of Algeria has also shown a considerable awakening. England, the most important customer of France, has cut down the value of her imports of French cars during this half year to the extent of $354,000. The loss here, however, is not great and can be accounted for by the general financial depression, the trading account with Britain still being better than in 1906 and 1905.

During the first half of 1906 the trading account with the United States was more than doubled. Since then, however, there has been a steady decline, 1907 showing a drop of $98,800 and 1908 a further decrease of $97,480, making a total fall over the period of two years of $196,280. During the first half of 1905 the French automobile bill stood at $558,600; the one for the current half year totals $991,400.

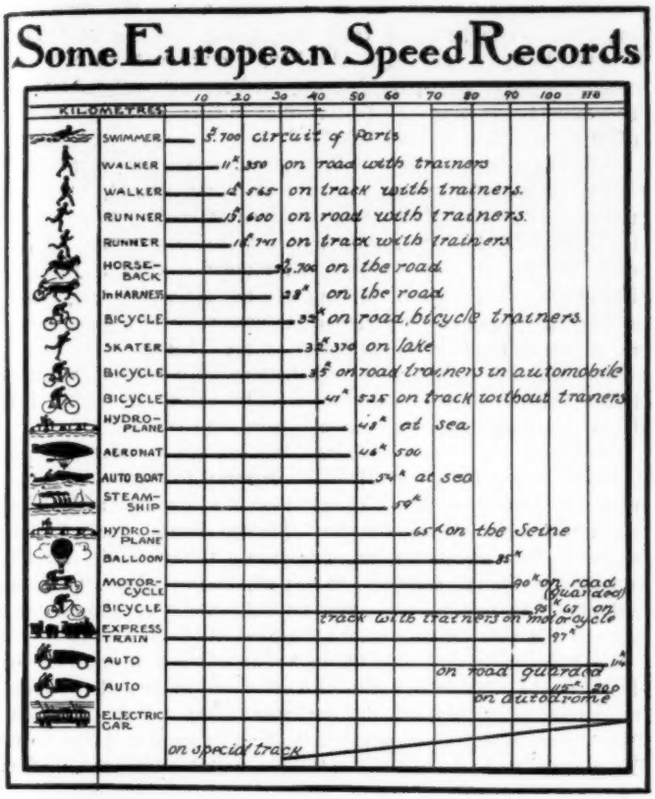
With Italy, Switzerland, Belgium and Germany the amount of business has dropped off considerably, and is not likely to be regained with either Germany or Italy. Spain may improve, and the whole of South America is looked upon as a field with considerable promise. The following table shows the amount of business done with the thirteen most important countries the initial six months of 1908 and 1907. The total does not accurately represent the French automobile exports, there being a number of other countries having small trading accounts which are grouped in the government report and are not included here.

Countries Showing an Increase.		
Russia	$156,600	$402,800
Algeria	352,800	467,600
Countries Showing a Decrease.		
Great Britain	$6,564,000	$6,210,000
Germany	1,741,200	1,372,000
Belgium	1,676,600	1,087,200
United States	1,088,800	991,400
Argentine Republic	660,600	491,400
Italy	441,000	236,800
Spain	419,600	372,400
Switzerland	417,600	205,800
Brazil	405,600	250,200
Austria Hungary	99,200	44,000
Turkey	10,800	10,000
Total	$14,034,400	$12,150,600

BLERIOT TAKES A TUMBLE.

Louis Bleriot, the French navigator, suffered his fourth or fifth smashup July 23 while making a trial of his new monoplane. Bleriot made several short flights that morning on the Issy les Moulineux grounds, and being apparently unsatisfied removed the machine to the shed. Practically all the spectators had left the field when he reappeared again at noon. He made a quick start and was soon well up in the air, traveling at about fifty kilometers an hour. Then, just after the first turn, a sudden gust of air twisted the tail of the machine skyward and Bleriot found himself sitting on the ground in a heap of wreckage.

The propeller of the machine was completely destroyed, the wheels damaged beyond repair, and the left wing crumpled into a shapeless mass. In fact, the tail was about the only part which did not show the effects of the tumble. Bleriot himself escaped without personal injury.



SPEED is a relative and mystifying thing. It is also a fascinating thing, else why the emotions which we all experience at a race of any sort, whether on land or water.

The late W. E. Henley sang a song of speed as a result of one of the too infrequent journeys which he had taken en auto, and Maurice Maeterlinck praised "the wonderful unknown beast" for its attributes as a conquerer of space.

The automobilist is generally decried—by those who are not themselves automobilists—as a speed fiend who drives to the common danger of all other classes of humanity, in all places and at all times. This idea is a fallacy, as is proved by the figures recently evolved by the Royal Automobile Club of Great Britain.

They sought to prove that a ten-mile-an-hour limit for automobiles was ridiculous when a horse-drawn omnibus was allowed to roll and career madly through London streets at 11.3 miles per hour, a cyclist at the rate of 15.85 miles, a private trap at 13.55 miles, and butcher's and baker's boys in their nerve-racking, rattling carts at any speed they could attain, frequently fifteen, sixteen, or even eighteen miles an hour.

The automobilist can get up speed when he wants to, but first, last and all the time he has his mechanical horse under better control than are the sorry hacks who draw the hansoms on the Thames embankment at fifteen miles an hour, or the electric trams which run out through Battersea or Hounslow at twenty miles an hour or more.

The fact that the automobile is as speedy a vehicle as it is speaks well for its controllability; otherwise, we should all have met untimely deaths before now. The opponents of automobilism seem to forget that there is often as much danger for the occupants of the automobile, when it arrives in a tight place, as for those on the road or footpath, or in another vehicle.

The comparative speed table reproduced herewith reduces the speed of modern locomotion in Europe to a common denominator, and should prove interesting to students of that all-important present-day question of roads and road-making and all that is thereto allied, and the question of speed and its relation to the needs of our modern life is a very potent one.

In a dozen years *"la vitesse"* in most forms of locomotion has been sensibly increased, and though the figures given are of European recorded records the comparisons hold equally good when viewed from either side of the big duck pond between us.

Billington, an Englishman, swam the Seine as it flows down through the very heart of Paris at a speed of 5.700 kilometers an hour, a water record that has not been approached.

Fantou, a Frenchman, made the circuit of Paris by road, on foot, walking, 36.600 kilometers in all, at an average gait of 11.350 kilometers an hour. Fantou also holds the European track-walking record of 12.565 kilometers an hour.

Loys, a Greek, ran 13.600 kilometers in an hour on the road—with trainers, and Schrubb, an Englishman, did 18.741 kilometers in the hour on the track, with trainers.

On horseback the record is 26.700 kilometers. It was made by Jobourg, mounted by the Marèchal de Logis, Peyraud, who also covered 100 kilometers—Brussels-Ostend—in 4 hours 15 minutes, an average of 23.500 kilometers an hour.

In harness, Prince, belonging to and conducted by A. Roy, made 28 kilometers in the hour, on the road between Nangis and Verneuil-l'Etang, near Paris.

Garin, a Frenchman, did 32 kilometers an hour on the road with bicycle trainers.

Troning, a Norwegian, comes next in point of speed with 32.370 kilometers to his credit, a skating record made on the ice of the lake at Davos, Switzerland.

The road bicycle record, paced by an automobile, 35 kilometers an hour, was made by Huret, a Frenchman, on the Paris-Bordeaux road, 594 kilometers being covered in 16:35.

The bicycle track record, without trainers, belongs to Berthet, 41.525 kilometers. This beats Petit-Breton's record of 41.110 kilometers.

The hydroplane record (a *bateau-glisseur* which just skims the surface of the water, its power coming from a gasoline motor) the invention of Comte de Lambert, is 48 kilometers an hour, made off the coast. In the sheltered waters of the Seine below Paris a speed which worked out at 63 kilometers an hour was attained for a short distance.

The aeronaut or dirigible balloon record for the hour seems still to rest with Count Zepplin's airship, Zepplin, 350 kilometers in 7 hours 30 minutes. This equals 46 kilometers an hour.

The motor boat record, that of the Lorraine-Dietrich belonging to Perigon, is 54 kilometers. It was made in Normandy.

The passenger-carrying steamship record belongs to the *Viper*, a cross-channel boat between England and France; 32 knots in the hour, equalling 59 kilometers.

The balloon record for speed is undoubtedly that made by the Hirondelle in 1887, when the formidable *vitesse* of 145 kilometers an hour was attained between Saint-Denis and Neuilly-Saint-Front. Eighty-five kilometers were covered in 35 minutes.

The motor-cycle record, on a road guarded by national troops, is held by Bucquet, 202 kilometers in 2 hours 12 minutes, the equal of 90 kilometers an hour.

The bicycle track record, paced by motorcycles, belongs to the Frenchman, Guignard, 95.67 kilometers in the hour.

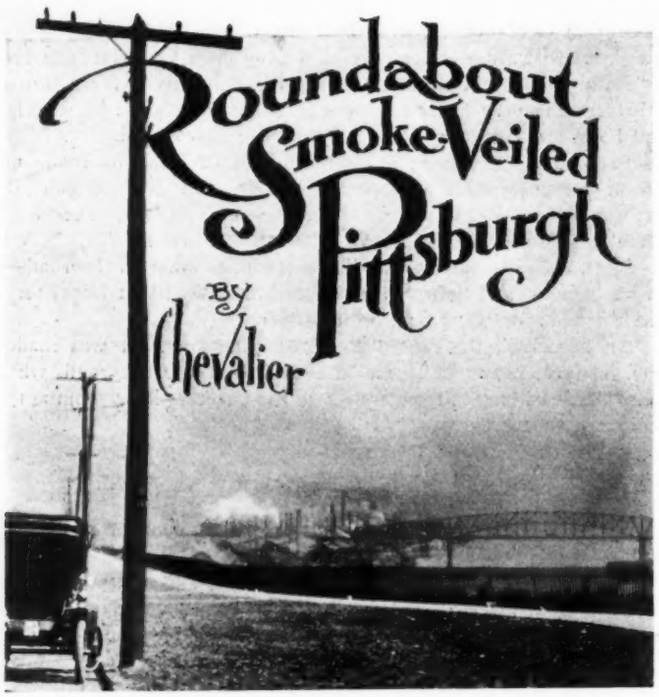
The express train record is that of the run from the Paris Gare du Nord to Amiens (the Paris-Calais Rapide). The 131 kilometers take 1 hour 35 minutes, or 131 kilometers an hour.

Automobile records in general are apt to be things of dispute these days, but the following are unquestionable recorded times, which may or may not be records in the light of the personal knowledge of other phenomenal, if seemingly fantastic, results achieved by the modern speed king, the automobile. In the Grand Prix race of 1907, on the Seine-Inferieur circuit, Nazzaro on a Fiat averaged 114 kilometers an hour for the entire distance. On June 9, 1908, the same driver and car went over to England in answer to S. F. Edge's challenge and set up a record for the Brooklands track of 120 miles—184 kilometers—an hour, over a total distance of 271-2 miles. Nazzaro deserves additional credit for this performance on account of his unfamiliarity with the course and the necessity of carrying a mechanician.

The Siemens-Halske electric car, on a section of specially laid track between Berlin and Jossen, made 210 kilometers an hour.

Roundabout Smoke-Veiled Pittsburgh

By Chevalier



A Haze of Smoke Obscured Our View of the City.

READERS of Daudet will remember that Tartarin de Tarascon was made up of two diametrically opposed temperamental halves. He was a combination of Quixotic love for travels and adventure on the one hand, and Sancho Panzaic love for home and comfort on the other. Quixotic Tartarin would say to himself: "Sally forth into the world of adventure and cover yourself with glory." Sancho Tartarin would whisper: "Stay at home and cover yourself with flannel."

The writer confesses to a similar make-up. Maps are studied, road books are read, and a trip is laid out months in advance, with all the pleasures of anticipation.

When the time of departure arrives, Sancho has his innings, and a debate arises. What about changing tires in the mud and rain? What if we should get "hung up" in the mountains with major mechanical troubles or with a leak in the gasoline system? What about having to sleep out in the machine on the mountain? Would it not be more comfortable to sit under the shade of our own big white oak, and read and doze? Usually the Quixotic half comes out ahead, and we pack our luggage in the hamper, fill the lunch basket, and we are off.

But once a compromise was struck between the Sancho and the Quixote halves, and the trip over the rough and rugged roads of the Allegheny mountains was abandoned for a delightful little run around near by, where "home, sweet home," can be reached quickly, whether the machine is willing or not.

Passing through Bellevue, where property is worth $300 a foot, and where the streets are so bad that your teeth are almost shaken out of your head, we cross the Allegheny river, and wend our way through the grime-laden atmosphere of Pittsburg. We pass the Carnegie Institute, and take off our caps and bow to the genius of the man who can earn a million dollars a week while playing golf four thousand miles away. We pass over the smooth roads of Schenley Park, whose beautiful green grass and foliage are turned brown, and, in some places, black, by the grimy, brown, ore-laden atmosphere, polluted by the mills which have made Pittsburg. We speed on, that we may the sooner rid our lungs of the filthy atmosphere, and fill them with the pure air of the open country.

We keep the speedometer right up to the legal point. If it passes it, it is because of the vibration of the machine. We hurry through Highland Park, over the Allegheny river, and, taking the Evergreen road, we are soon among the beautiful hills and fields of Western Pennsylvania. We then turn into the Perrysville plank road, and, going east, we turn down into the Lowries run road. We bowl along, coasting over this smooth, newly improved highway, and our Quixotic half has his innings. Is this not better than sitting at home reading about some other fellow's trip?

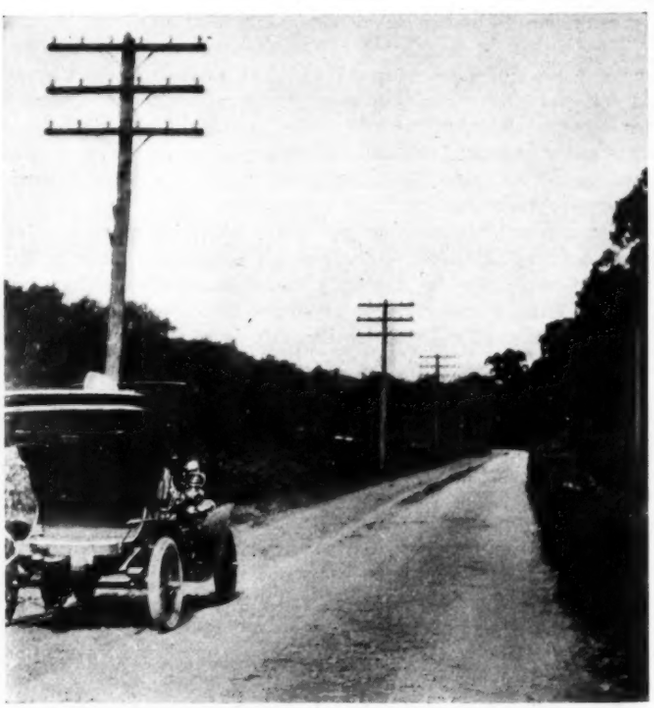
When we get to the next hill, however, some misgivings arise. Our power is nearly gone. The vehicle is not running hard, for it just coasted beautifully, even on the less steep portion of the down grade. The motor does not seem to be skipping, and, to make sure, as well as to see if the muffler is choked, we open the cut-out. There is no skipping, the explosions are very weak, and cutting out does not increase the power. The gasoline valve on the carbureter is opened and closed slightly without any effect. The dry cells and storage battery both are in good condition, and both give equal results. The valves are tight, their lift is right, and the compression is good and equal.

Here is a bad state of affairs. We are on a valley road, in a pocket, to get out of which it is necessary to climb some steep hills. We must fix things or abandon the machine and "hike" five miles in the blazing hot sun. Sancho Panza says: "I told you so." We sweat for an hour trying to locate the trouble, and then sit down to think and reason, and to allow the motor and ourselves to cool off. We now do what we should have done in the first place—make a diagnosis.

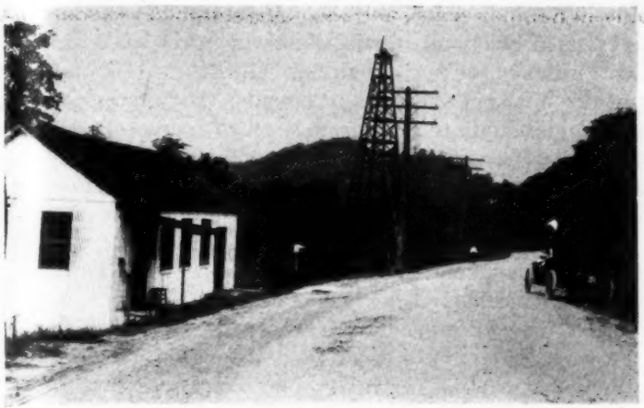
We have made the same blunder that is made in most repair shops, where they take a machine all apart to find the trouble, instead of reasoning out the probable source of the difficulty. They do an exploratory operation instead of making a diagnosis. We reason that the weak explosions heard when the muffler was cut out could not have been from faulty carburetion or there would have been at least an occasional skip. Could there be an obstruction in the exhaust pipe? The symptoms were so like a choked muffler, except the failure to cure by the opening of the cut-out.

By this time the exhaust pipe is cool, and when we take it apart and find a piece of a baffle plate choking it up almost completely, we remember that after coasting that last hill we had a terrific explosion in the muffler because we failed to close the throttle when we shut off the spark.

We connect up the exhaust pipe, wash off the grease and dirt in the stream, brush our clothes, start the motor, and hear with



After We Left the Din and Grime of the Iron Mills.



A Pennsylvania Oil Producer's Home and Derrick.

Shagbark Cottage Which Delighted Sancho Panza.

joy the deafening cannonading of the cut-out explosions. Never was noise more musical to the trained automobile car than that.

We bowl along through the valley, crossing and recrossing the brook. We come to a sudden ending of our smooth macadam, and bump along over the rough clay, just dried after recent rains. It is one of the galling things to a Western Pennsylvania autoist that all good roads lead to bad ones. Allegheny county has been improving roads in patches here and there, so that only a few continuous miles are yet available.

Soon we come to something worse. The Telford foundation has been laid, sharp stones on edges, but the top layers of broken stone have not been added. This is ruinous to tires, but, hoping it will end at every turn, we keep on, still thinking that it is a farther escape backward than forward. After four miles have been traversed, we come to an utterly impassable road. We think of the four bad miles behind us and no extra casing along. Sancho Panza says: "I told you so." Fortunately, we discover a side road, which we take, over steep hills, through muddy, swampy, shaded valleys, where the sun has not yet had time to dry out the roads.

We pass through old fields, where black old derricks a quarter of a century old, still stand, the wood preserved by the oil sprayed over the structure when the "gusher" was struck that made the owners wealthy at the rate of hundreds of dollars a day, a man's capital being figured in barrels of oil.

Soon we reach the Perrysville road, on which we turn homeward. After a good dinner, both Quixotic and Panzaic halves are satisfied by the pleasure of the summer afternoon's trip.

THE MICHIGAN CONSTABLE TRUST.

A party of amateur Sherlock Holmeses, while on an automobile tour through Michigan, succeeded in unearthing a copy of the rules in force among a certain band of constables operating there. By what devices and underhand methods it was obtained there is no need to relate. All autoists who intend to visit that State should read the rules and be prepared with the necessary equipment. They are:

1. On discovering an approaching team, the automobilist must stop offside and cover his machine with a tarpaulin painted to correspond with the scenery.
2. The speed limit on country roads this season will be secret and the penalty for violation will be $10 for every mile an offender is caught going in excess of it.
3. In case an automobile makes a team run away, the penalty will be $50 for the first mile, $100 for the second mile, $200 for the third mile, etc., that the team runs, in addition to the usual charges for damages.
4. On approaching a corner where he cannot command a view of the road ahead, the automobilist must stop not less than 100 yards from the turn, toot his horn, ring a bell, fire a revolver, halloo, and send up three bombs at intervals of five minutes.
5. Automobiles must be seasonably painted—that is, so they will agree with the pastoral ensemble and not be startling. They must be green in spring, golden in summer, red in autumn, and white in winter.
6. Automobiles running on country roads at night must send up a red rocket every mile and wait ten minutes for the road to clear. They may then proceed carefully, blowing their horns and shooting Roman candles.
7. In case an automobile comes up behind and wants to pass, the farmer will affect deafness until the autoist calls him a hard name, and will then enter suit for defamation of character.
8. All members of society will give up Sunday to chasing automobiles, shooting and shouting at them, making arrests, and otherwise discouraging country touring on that day.
9. In case a horse will not pass an automobile, in spite of the scenic tarpaulin, the automobilist will take the machine apart as rapidly as possible and conceal the parts in the grass.
10. In case an automobile approaches a farmer's house when the roads are dusty it will slow down to one mile an hour and the chauffeur will lay the dust in front of the house with a hand sprinkler worked over the dashboard.

LEGAL DECISIONS OF IMPORTANCE.

NEW YORK, July 27.—Two decisions that have been handed down during the past week or so by the courts in this jurisdiction are of considerable interest and importance to automobilists at large. Probably the one that will come in for the greatest commendation was the sentencing of Charles McLeod, a Brooklyn chauffeur, to six months in the penitentiary by Judge Norman S. Dike, for what is most familiarly known as "joy riding." It happened to be the second occasion on which McLeod had taken a machine from the garage at which he worked for the purpose of showing some of his friends how fast he could drive, and in each instance he ended by demolishing the car. He pleaded guilty to grand larceny in the second degree.

The second decision is by the Appellate Division of the Supreme Court, and is to the effect that the owner of an automobile is not responsible for damages inflicted by it upon a third party when in the hands of his servant for the latter's personal convenience. This was rendered in the case of Cunningham *vs.* Castle, which was an action brought to recover damages for injuries sustained by being run down by the defendant's automobile while under control of the driver, Henry Boes, for his own purposes. In the lower court the jury found for the complainant, but the Appellate Division reversed this and ordered a new trial, Justices Clarke, Ingraham and Scott concurring, while Justices Houghton and McLaughlin dissented.

TOLLS DOUBLED ON A MARYLAND TURNPIKE.

BALTIMORE, July 27.—The toll charge for automobiles has been doubled by the Frederick and Jefferson Turnpike Company, whose road runs between the city of Frederick and the village of Jefferson. This road is one of the best-kept highways in the country and the officials claim that the autos cause great harm to the pikes. The advanced rate will make the charge for two-seated autos 32 cents. The road is eight miles long, so that the cost per mile will be four cents.

THE AUTOMOBILE

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A TOUR THAT UNDENIABLY DEMONSTRATED.

When 28 automobiles out of 46 can travel 1,675 miles in 12 days, observing a schedule that demanded much over roads fluctuating suddenly from excellent to vile, and receive attention from driver and mechanic limited to the use of parts carried on the vehicle, the percentage of clean-score finishers supplies a demonstration of the American automobile that should be acceptable even to those few skeptics who have been waiting for public proof that the new means of individual transport had reached that stage of perfection which would commend it to all as reliable and assured for short and long hauls.

Surely even the most exacting could not ask anything more convincing than what was accomplished by the automobiles participating in the "fifth annual reliability touring contest" of the American Automobile Association, and it should be here mentioned that, besides the perfect-score brigade, the survivors of the hardest test ever asked of motor-driven vehicles, either here or abroad, included others which fell short of a clean-score record by margins so scant that they are entitled to almost equal credit. When one adds a half dozen official and press cars which practically duplicated what had been done by the contestants, the reliability showing gains more in the fullness of the measure.

Automobile endurance runs are sporting propositions only in a minor sense, and the general public is mainly interested in being informed as to what cars have met the extraordinary touring conditions called for. If more than one car answers these requirements, the interest of the automobile-buying public is that much increased, for the greater number of clean-score participants—providing the contest is one really deserving of the name—makes evident the reliability of automobiles as now produced.

It is a fact, however, that a certain percentage of the public are particularly interested in any sort of a contest, human or mechanical, or combining both, and to satisfy these it may or may not be advisable, according to the viewpoint, to continue an automobile endurance run until a winner is evolved for any trophy which may be offered.

If independent owners, for their own sporting amusement, were the only entrants in automobile contests of a reliability nature, and insistent upon a fight to a finish, a single winner would be a natural sequence. But it is the makers themselves who now pay the heavy bills, and, having met the extraordinary touring conditions by participating in a reliability contest, they are entitled to a reasonable amount of unquestioned publicity for having successfully passed the hard mechanical examination.

Therefore, while it might be a matter of interest in some quarters, it would seem that it really mattered little whether or not the tie was decided in the matter of holding the Glidden trophy, for, if no club team won it, it naturally reverted to the A. A. A. touring board, to be held until the contest of another year. To have penalized a car at the conclusion of the tour because it checked in a minute earlier than it was required to do would have been action somewhat unusual when all attendant circumstances explained elsewhere were taken into consideration. The most scrutinizing discoverer of technicalities might so rule, and he would find those who agreed with him. But a common-sense interpretation of the incident would not have blackened the otherwise faultless mechanical record of the car for such a palpable and indirect error in mathematics, which, if it gained nothing for the car, certainly should not have counted against it. It might be said, too, that a rule of this indefinite sort might better be left out of future conditions of endurance runs.

If winners must be had at the conclusion of endurance runs, they can be more sensibly obtained by an examination of the cars, letting general condition decide any ties which may exist.

The tour told a story full of praise for the endurance qualities of American automobiles, and a sporting sequel may or may not be a necessity, according to the manner in which one looks at the proposition as a whole.

It is now plainly apparent that the American automobile has risen superior to any prolonged contest conducted over American roads with due observance to the existing laws. And its ability thus demonstrated is greatly in excess of anything which it might be asked to perform in its use even by an owner who might demand much more than would the average autoist, who does not expect to utilize the highways as a race course.

Exactly what sort of a contest should be planned for next year is a matter requiring most careful consideration. It would seem a likely proposition that the tour of 1909 should be held somewhere in the center of these United States, where automobiling has not yet lost its recently gained newness, and where roads are scarcely such in name.

ASK FOR ROADS TO COMPLETE VANDERBILT CUP CIRCUIT

PROGRESS on the 12-mile stretch of the Long Island Motor Parkway, between Central Park and Meadow Brook, has so far advanced as to positively insure its completion for the Vanderbilt Cup race and justify the commission is going ahead in securing the use of the existing highways to complete the 30-mile circuit.

Accordingly, on Tuesday last A. R. Pardington, on behalf of the Vanderbilt Cup Commission, made to the Board of Supervisors of Nassau county formal application for permission for the use of about a score of miles of the county roads in the towns of Oyster Bay, Hempstead and North Hempstead for elimination trials between 5 and 10 o'clock on the morning of Saturday, October 10, and for the Vanderbilt race itself on Saturday, October 24, from 5 A.M. to 3 P.M.

The board has set Monday, August 3, at 10 o'clock in the morning, for a public hearing at the courthouse at Mineola. In view of the fact that permission has readily been granted for previous Vanderbilt races, and in the face of the undisputable eagerness of the Nassau county citizens for the running of the race, with its attendant liberal pouring of the fraternity's money into the county, there seems to be little doubt of the desired permission being granted. In its application, filed at Mineola, the Cup Commission outlines the course desired as follows:

Beginning at the Round Swamp road at or near the juncture with a road known as the Manetto Hill road to Plainview, thence on a straight road to Woodbury and east along the Woodbury road to a point or juncture of the Woodbury road with the Jericho turnpike, over the Jericho turnpike west to Jericho village, thence south from Jericho village, on the Massapequa-Oyster Bay road to its point of juncture with the Jericho turnpike, thence west over the Jericho turnpike to the old Westbury road, thence south to the Old Country road and easterly along the Old Country road to Merrick or Whale Neck avenue; thence along Merrick avenue to a point about 400 feet north of the Central branch of the Long Island Railroad to the roadway of the Long Island Motor Parkway.

Though entries for the Vanderbilt Cup race do not close until September 1, with the privilege of making nominations up to October 1, the commission has received ample assurance of a representative field of American contenders, and is confident of a sufficient number of competing foreign cars to preserve the international character of the race. Entries are now being made.

Robert Graves, a member of the commission, who has purchased the Mercedes which won this year's Grand Prix, has not yet made known his intentions as between substituting the newer car for Janatzy's Mercedes of the 1906 race already entered by him, or putting the Grand Prix winner in as an additional entry. A six-cylinder Mora has already been entered.

An announcement was made Tuesday of the entry of a special Chalmers-Detroit of 50-horsepower, it being entered in the name of J. S. Harrington, of the Worcester Automobile Club. The car will be driven by Oliver Light, who is well-known.

The nomination of two Locomobiles and two Thomas cars seems assured. There are also in circulation reports of intended entries of an Apperson, an Acme, a Chadwick, a Frayer-Miller and two more Chalmers-Detroits by their makers.

FRENCH CLUB AT WORK ALONE ON 1909 RACE RULES

PARIS, July 23.—The absence of two of its most prominent engineers, Louis Renault and Henri Brasier, was largely responsible for the Racing Board deferring its decision on the regulations for the 1909 Grand Prix at the meeting this week. The gathering of the Racing Board, the first since the Dieppe event, was occupied in talking over the situation for next year, but was not productive of any important decision. It was decided in principle, however, that there should be a race in 1909, thus putting an end to the rumors that, as the result of the recent defeat, the Grand Prix would be abandoned.

In all probability a decision regarding next year's regulations will be made within a week, the intention of the Commission Sportive being to announce the conditions and place of the race practically twelve months in advance, so that constructors will have an opportunity of preparing well ahead and of testing the actual racers on the course before it is closed for the necessary repairs prior to the race.

Regarding the rules to be adopted, there is complete confusion at the Commission Sportive. A still further limitation of the bore in order to reduce speed to the limit which tires can reasonably be hoped to maintain is strongly supported. On the other hand, M. Arnoult, the vice-president of the technical board of the club, declares in favor of full liberty, maintaining that the tire element alone is sufficient check upon exaggerated horsepower. The recent race is an argument in favor of M. Arnoult's theory, the fastest cars in the Grand Prix all being killed out as the result of tire trouble caused by their excessive speed.

There is something of an anomaly in the Racing Board of the French Club seeking to settle the rules of the race without any reference to the other members of the International Association of Recognized Automobile Clubs. The burlesqueness of the situation does not even escape the Frenchman, who asks why, after so strongly protesting the independent rules of the Vanderbilt race, the Commission Sportive should meet with the avowed purpose of drawing up rules for its 1909 speed test, which will not be in conformity with the decisions of the Ostend conference. Doubtless the Belgian decision of 1907 was only intended to apply to the races of 1908, but if it needed the combined clubs of Europe to formulate a set of rules for the present year, why should a single club usurp that power for 1909; the fact that it is anxious to make early arrangements is not sufficient excuse for the irregularity.

Despite the serious drubbing that the Dieppe district has received at the hands of the French club, the Norman authorities have boldly come forth with a request for the race to be held a third year in their district. The chances are that the request will be turned down without thanks. Drivers still remember that a few of their number had to spend a day in jail for exceeding a ridiculously low speed limit, and that others had to meet fines for exceeding 15 miles an hour with cars that could not be throttled down to such a crawl. The Racing Board is sore over the bad condition of the course and the stupidity shown in the tarring arrangements, while the treasurer is not likely soon to forget that the Prefect of the district demanded 734 free grandstand seats for himself and his friends, and thereby reduced the profits by $6,036.

There are half a dozen districts ready to make every sacrifice to secure the 1909 race, the favorite for the moment being the Anjou district, a few miles to the west of Tours, and on the border of the beautiful chateau country, well known by all foreign tourists. A strong argument in favor of the district is a subvention of $20,000.

Though all the accounts are not yet in, it is estimated that the recent race will leave a profit for the Racing Board equal if not greater than that of the 1907 event, despite the reduction of the town indemnity from $20,000 to $10,000.

The voiturette race of itself, though well attended, was not sufficient to make expenses.

BAD WEATHER MADE OSTEND MEET TIMES SLOW

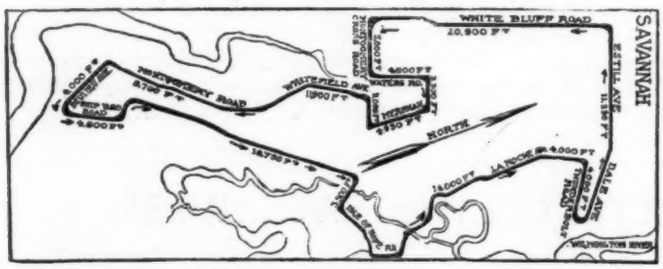
OSTEND, BELGIUM, July 23.—Rain spoiled the last day of the Ostend meet, which in the past has been famous for the breaking of records. When the powerful Grand Prix cars lined up for their fling at mile and kilometer distances the wind was blowing half a gale and the rain was descending in torrents, with the result, as can readily be supposed, that no record went by the board during the 1908 gathering. The Belgian method of making mile and kilometer tests is for the cars to cover the distance in both directions, the times being totalled and the average maintained as the official performance.

Hautvast, who handled the Bayard-Clement 155 millimeter machine which fell down on him in the Grand Prix, made the fastest time on the flying kilometer, his total time for the two tests being :45 2-5. Rigal, also on a Bayard-Clement, took second place with :46 4-5; Gabriel on the Grand Prix Mors was clocked in :49 2-5; S. F. Edge's six-cylinder Napier could not do better than :50 4-5, and De le Marra's Fiat finished in :55 1-5.

For the mile test, standing start, Hautvast again scored, his Bayard-Clement covering the double distance in 1:33 4-5; Gabriel ran the Mors into second position with 1:39 3-5; Rigal got third place for the Bayard-Clement with 1:48, and De la Marra was again tail-ender on the Fiat with 1:59.

COURSE ANNOUNCED FOR SAVANNAH RACE.

The Automobile Club of America has definitely announced at Savannah, Ga., the course for its "Grand Prize of America," and work has been started to prepare it for the race. The course is 26.73 miles long, and will be covered fifteen times, making a total distance of 400.85 miles. While the road surface is undoubtedly excellent, no record-breaking speed can be expected on account of the great number of turns. There are at least a dozen right-angled corners, and two or three even sharper; the longest straightaway stretch is about two and a half miles. An elimination race may be held three days before the main event, as the A. C. A. officials expect will be necessary, and a proposed 200-mile light car race is talked of the day before.



Route of "Grand Prize of America" Course at Savannah.

The course will be patrolled by State militia and a detail of police, and if these repeat their good work of last year there should be no trouble from the crowds. The present grandstand holding 8,000 persons will be enlarged, with ample parking space nearby. All information concerning hotels and boarding-houses will be furnished through a special bureau.

AERONAUT FARMAN ARRIVES IN NEW YORK.

When the *Touraine* steamed into New York harbor last Sunday morning with Henry Farman on board it was met by an enthusiastic delegation from the Aero Club of America, who transferred the aviator to their tugboat and escorted him to the Hotel Astor. Later in the day Mr. Farman went out to the Brighton Beach race track, where the flying exhibitions will begin August 1, and looked over the ground. He seemed very much pleased, but took occasion to warn his companions not to expect him to fly away over the housetops or soar into the clouds, for developments had not reached that as yet.

"We must remember," said Farman, "that there is a great difference between the aeroplane and the dirigible balloon. At present the latter has the best of it, at least from the spectacular side, but there is no doubt that the aeroplane will prove far superior as its development progresses. I always go upon the principle, however, that it is better to be a live experimenter than a dead dare-devil." Farman's machines arrived on the *Kroonland* and were immediately transferred to Brighton Beach, where they will be set up at once.

RACE PROMOTERS CASH A $7,000 RAIN BET.

It will be remembered that the coterie of multi-millionaire racing enthusiasts summering at Long Branch resolved to take no chances of unfavorable weather making the meet they promoted at Elkwood Park, on the Fourth of July, a financial failure, hit upon the expedient of insuring themselves against a storm on that day. Accordingly, by the payment of $1,400 premium, they secured at the Lloyds', in London, insurance to the amount of $7,000 against one-tenth of an inch rainfall on that day. The promoters were easy winners of the 5 to 1 bet.

The Vanderbilt Cup Commission has invariably insured itself against damage suits, and similar insurance was taken out by the Briarcliff race promoters.

In view of the outcome of the precaution taken by the Long Branch race givers, it is not at all unlikely that in future many of the big automobile events will be thus insured against financial loss. Race promoters, grandstand builders and other holders of privileges will probably seek the Lloyds to make their good things sure things.

INDIANA'S GOVERNOR IS CONSERVATIVE.

INDIANAPOLIS, IND., July 27.—The rumor reached here last week that Indianapolis is in a fair way to get the American automobile derby to be run under the auspices of the Chicago Automobile Club. The only thing in the way, it is said, to prevent the State from getting the race would be the refusal of Governor J. Frank Hanly to lend the services of the State troops to police the course. The Governor has been on a lecture tour for several days and has not been seen on the subject so far. However, it is believed that he would not consent to the State troops aiding such a race, as he is decidedly conservative.

It is reported that a 26-mile course in the vicinity of Crown Point in the northern part of Indiana has been decided upon, and it would be necessary to have the military forces patrol the course to prevent accidents to spectators.

CALDWELL, VANDERBILT PUBLICITY MAN.

Henry Caldwell, whose "Gasoline Gossip" column in the New York *Evening Telegram* attracted widespread notice during its printing, has taken charge of the publicity department of the Vanderbilt Cup race, which means that the work will be exceptionally well done and satisfactory generally to all newspaper men. Mr. Caldwell's office will be at 437 Fifth avenue, New York City, in a room added to the A. A. A. headquarters.

MARYLAND STARTS ROAD IMPROVEMENT WORK.

BALTIMORE, MD., July 27.—Routes for improved highways in Calvert and St. Mary's counties, in southern Maryland, have been selected by the Good Roads Commission. This is the first move for the construction of the system of State roads for which $5,000,000 was appropriated by the Maryland legislature.

THINGS DOING AMONG THE AUTO CLUBS

ATLANTIC CITY CLUB FLAGS THE FLAGGERS.

ATLANTIC CITY, N. J., July 27.—Automobile travelers approaching this city, from whatever direction, will find the roads patrolled by county constables. To offset these pests, the Atlantic City Automobile Club has established counter-patrols, each man armed with a huge yellow flag bearing the emblem in black letters, "Police trap ahead—slow down." The business of the yellow flagmen will be to locate the traps and station themselves accordingly—moving from place to place with the Vidocqs and checkmating them at all times. The yellow-flaggers have been on duty but a few days, yet in that short time they have done excellent work—so excellent, in fact, that they have aroused the ire of the constables, who threaten to nab them if they interfere with their legitimate prey. So bitter has the feeling of the cops become that they threaten to even cause the arrest of the Atlantic City club officials on the charge of obstructing justice and abetting violations of the law. Certain it is that the arrests of automobilists during the past week have practically ceased.

A number of Chelsea cottagers, whose business takes them to Philadelphia every day, have organized an exclusive motor club which they call the "D-T Association." (They are kept constantly busy explaining that the initials stand for "Daily Trips" and not "Delirium Tremens.") The "D-T's" go to and from business each day in their cars instead of patronizing the railroad's flyers and find the scheme highly enjoyable. Traveling together, any breakdown likely to result in delay is discounted by the owner getting into another car and leaving his own car in charge of a chauffeur, who, after fixing the car or getting it fixed, brings it on to its destination, where its owner finds it ready for him.

ARREST OF A CLUB'S SPAGHETTI SCATTERER.

COATESVILLE, PA., July 27.—But eleven of the expected half a hundred cars participated in last Saturday's endurance run of the Automobile Club of Chester County, because of a dispiriting all-day downpour. The course was to Oxford and return—about 80 miles—and the roads were hub-deep in many places. The competitive feature of the affair was practically abandoned, and the run home degenerated into a flounder, which resulted in a pair of Buicks—John Boyd's and Dr. H. S. Scott's—finishing first and second, with J. H. Maynard's Ford third.

The contestants were hot over the arrest of the pilot, Walter L. W. Jones, in West Chester, for scattering confetti at the turns. The cleanly officials asserted that Jones had "cluttered up the streets with his d——d paper," and the culprit was mulcted a five spot by Burgess Reid. Jones stripped off a twenty from a fat roll, and the burgess had to run all over town to get it changed. The run was almost on his heels when he got away.

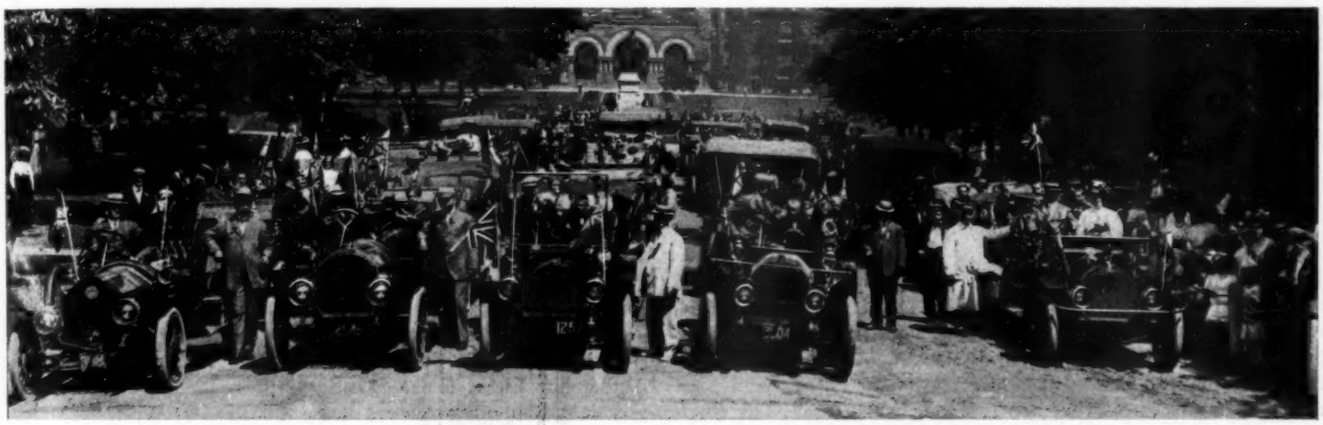
JERSEY CLUB WILL RACE AND PROTEST LAW.

WILDWOOD-BY-THE-SEA, N. J., July 27.—There will be a great gathering of automobilists here on Friday evening, July 31, to protest against the many injustices of the New Jersey motor law. The affair will be under the auspices of the Motor Club of Wildwood, and the date was selected on account of the great influx of motorists expected here to witness the "sprint" races on the Central avenue boulevard the following afternoon. The meeting will be the first gun in a strenuous campaign of the motor clubs and hotel keepers against the Frelinghuysen law, which, while proving decidedly obnoxious to motorists, especially those from outside the State, has taken thousands of dollars from the pockets of the seashore bonifaces, who complain that automobile travel has fallen off 50 per cent., as compared with last year—this, notwithstanding that with the marvelous growth of the sport elsewhere, a 50 per cent. increase could have been otherwise looked for.

The three Philadelphia clubs are taking a lively interest in the meeting, and are endeavoring to secure a big turnout of their members. "Charlie" Swayne, former president of the Quaker City Motor Club, now lives here, and has guaranteed a big representation of his clubmates. The Philadelphia and Germantown clubs will also be largely represented, while there will be delegates not only from every automobile organization in southern New Jersey, but from every club within fifty miles of Philadelphia. Northern New Jersey and New York have also been invited to send representatives.

The Wildwood protest, it is understood, will be followed up in September by a similar meeting in Atlantic City, under the auspices of the Automobile Club and the Hotel Men's Association of that resort. To the latter gathering every club in the New Jersey federation will be invited to send delegates. It cannot be denied that the Frelinghuysen law has kept automobile tourists out of the State. It is apparent to everyone in any way connected with the business in the south Jersey shore resorts.

Next Saturday's races—the affair is officially termed "The Midsummer Meet"—promises to be even more successful than those held on the glorious Fourth. The numerous events elsewhere kept down the entry list on that occasion.



Third Annual Outing Given by the Ontario Motor League to the Orphan Children of Toronto, Friday, July 10.

ANOTHER CLUB IN WESTERN NEW YORK.

BATAVIA, N. Y., July 27.—The autoists of this city have organized a club and elected the following officers: President, Arthur G. Hough; vice-president, Raymond M. Walker; secretary and treasurer, E. Dean Hickox; executive committee, the officers and Charles Shaul, W. W. Kinne and J. W. Leseur. Nearly fifty business and professional men stand ready to join and a meeting will soon be held to complete the organization.

AUTOMOBILE INTEREST AROUND MASON AND DIXON'S LINE

By F. S. SLY, Traveling Correspondent for the Automobile.

ROANOKE, Va., July 25.—Roads in this part of Virginia are only fair, but Roanoke lies within four miles of the through road leading from Hagerstown, Md., to Bristol, Tenn., a stretch of macadam that is fully 300 miles long, so that autoists are not at a loss for a stamping ground. It is evident that interest in automobiling is growing apace here, as the Roanoke Automobile Association has just been organized with J. H. Marsteller as president, and C. M. Arms, as secretary and treasurer, and as there are now about 75 resident owners of machines in the city, the association will have plenty of material to draw on for its charter membership. While the through road not only offers a long stretch for pleasure runs, but also serves as a convenient connecting link between many small places in this part of the State, it does not naturally take the place of the network of good roads between places of importance and out in the open, that every part of this country should be able to boast, so that the new association will begin to make its influence felt in this direction as soon as it gets under way.

Dealers here report that business has been good during the present season, and still continues so, buying in this part of the country not being confined to the opening of the fair weather season by any means. There are two good garages, the Virginia Motor Car Company, representing the Maxwell, operating one, while the Roanoke Automobile Company, which handles the Rambler, Ford and Buick, runs the other. In addition to these, J. F. Munger & Son represent the Reo.

Harrisburg a Strong Automobiling Center.

HARRISBURG, Pa., July 28.—For its size, this city can well lay claim to being one of the best populated in the East, from the automobile point of view, there being about 500 cars in use here. This, in spite of the fact that there are but few good macadam roads in the county, the only ones of importance being those leading to Reading and to Gettysburg, both of which are very popular runs. The remainder of the roads roundabout are only fair and offer but small inducement to the autoist who does not have to use them from necessity or convenience. The chief factor in the fostering of automobile interest here is the Harrisburg Motor Club, of which Vance C. McCormick is president, J. C. Michener, treasurer, and J. Sidney Sible, secretary..

American Mors taxicabs have been introduced here, six of these cars now plying regularly for hire, while it is noticeable that a number of the city's business houses have gone in for commercial vehicles, as quite a few automobile trucks of various sizes and styles are to be noted in service. There are several up-to-date garages and quite a number of well-known American cars are represented, the Harrisburg Auto Company handling the Rambler, Ford, Reo, White, Peerless, Stoddard-Dayton and Stanley, while the Central Pennsylvania Auto Company has the Cadillac and the Buick, and the Keystone Motor Company represents the Pullman, Jackson and Atlas. All of the above maintain garages, while Andrew Redmond does an agency business, handling the Maxwell and the Columbus electrics. Business is reported as good by all the dealers, but not quite up to the mark set by last year, which was the best the trade here has had.

Nation's Battle-ground a Place of Fine Roads.

GETTYSBUGG, Pa., July 27.—There are few more attractive places to the autoist than the National Park here, not only from its historic and scenic interest, but from its network of fine macadam roads over which the visitor can easily reach all of the prominent features of the far-stretching battle-ground over which the most decisive encounter of the Civil War was fought. Autoists who tour anywhere in Pennsylvania within striking distance of Gettysburg seldom fail to make a detour to take in the sights of the battle-field with its endless monuments and tablets erected to commemorate the valor of those who gave up their lives in the three-day fight, and it goes without saying that this number would be vastly increased could the field be reached by good roads from any point of the compass. The Lincoln Memorial road, now in course of construction and which will connect Gettysburg with Washington, should be the cause of bringing a large number of visitors from the National Capital.

Flourishing Clubs in Small Pennsylvania Cities.

WILLIAMSPORT, Pa., July 27.—There are only a few paved roads in this section of Pennsylvania, but the common dirt roads are good during the summer and fall, which probably accounts for the unusually flourishing condition of the Williamsport Automobile Club. This organization is headed by W. C. Riley, president, the other officers being Charles D. Wolf, treasurer, and F. G. Sweet, secretary, and it now has 80 progressive autoists on its membership roll. The club does a great deal to foster interest in automobiling and is deservedly prosperous, its annual hill-climb and race meets being events of importance in this part of the State. Its membership is rapidly on the increase, and it is making its influence felt for the betterment of the roads and autoing conditions generally.

INDIANAPOLIS INSISTS ON REGISTRATION.

INDIANAPOLIS, IND., July 27.—The Indianapolis authorities have made good their threat to arrest automobile owners who failed to take out the city license last year. More than twenty arrests have been made during the past week, and it is said they will be continued until about 250 persons have been arrested. Local owners are indignant, but there seems to be nothing they can do, as the police court is assessing fines of $1 and costs, amounting to $11 in each instance where a 1907 license fee was not paid. No exceptions are being made, even if a 1908 fee has been paid, and a legal test of the law will immediately be made.

Last year, at license paying time, a test case was going through the courts to test the validity of the Indianapolis license ordinance. It was argued that it conflicted with the State registration law, but the courts held differently. The arrests last week were of business and professional men, principally in the downtown district. Other owners are to be arrested this week, but so far no one has suggested testing the attempt to collect a back license fee.

BAN PUT ON OFFENSIVE EXHAUSTS.

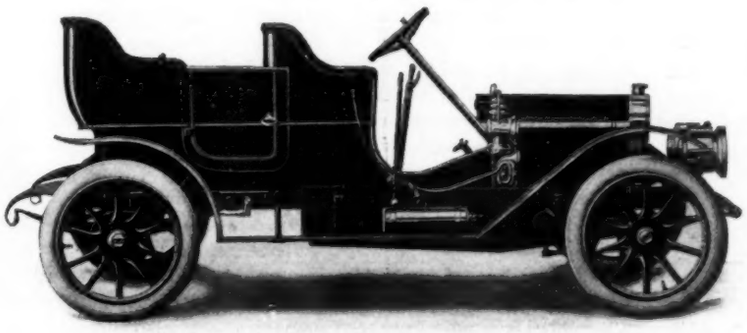
After August 1 New York drivers must keep a sharp eye on their exhausts, at least while on the driveways under the control of the Park Commissioners. Otherwise they may receive some unpleasant attentions from the park police. At a meeting of the Board last Friday the following ordinance was adopted:

"No person shall be permitted to run a motor vehicle in the parks or parkways of this city, under the jurisdiction of the Department of Parks, which emits from the exhaust or muffler thereof offensive quantities of smoke or gas or disagreeable odors," which means that the smoke and smell must go.

The worst offenders are said to have been the various taxicab companies. As the cabs are mostly handled by inexperienced drivers, some of the companies have standing orders that the exhausts must always be kept smoking, in order that the engines may be sure of ample lubrication. This practice will now have to be stopped. Similar ordinances against offensive exhausts have long been in force in Paris, as well as many other cities, and have had a salutary effect.

COMPLETE LINE OF KISSELKAR MODELS FOR 1909

FOR the coming season the Kisselkar will be represented by distinctive models, two of them designed for the buyers of light and handy cars, and a third, which is an entirely new addition to the Kisselkar line, consisting of a six-cylinder 60-horsepower touring model. Although the Kisselkar at $2,000 created no little sensation when it first made its appearance, the newcomers are considerably more in the way of eye-openers, as they are built on precisely the same lines as this year's $2,000 car, but are listed at $1,350 in the roadster type and $1,500 as a touring car. The Kisselkar has shown what it is made of by its excellent performances in competition with cars costing considerably more, so that there is little doubt that the announcement of a car of this quality at such a substantial reduction in price will give rise to an immediate and strong popular demand for this Western product. The new models will be smaller than the original Kisselkar, but in every other particular will be identical with their higher-priced prototype except for the proportionate reduction in horsepower.



Attractive Ensemble of the New $1,500 Kisselkar.

Specifications Compare Well with High-priced Cars.

In view of the low prices at which the new Kisselkars of the light type are listed, the manner in which their specifications tally with those of cars selling at much higher figures makes them of unusual interest to the large number of buyers who have long been on the lookout for something of this kind. The motor is of the four-cylinder vertical type, the cylinders being cast in pairs, while their dimensions are 4 1-4 inches "square," that is, the bore and stroke are the same. The motor is rated at 25 to 30 horsepower and is designed to run at a moderate normal speed, thus making for a durable engine and one that is free from vibration. Either a Schebler or a Stromberg carbureter will be supplied, while a positively driven, force-feed mechanical oiler will take care of the lubrication, ignition being by means of the usual standard high-tension system, employing a set of accumulators and dry cells as the source of current. For transmitting the power, a cone clutch will be used in connection with a three-speed sliding gear-set on the selective plan, driving by propeller shaft to a floating type of rear axle. The differential is of the spur gear type and large driving bevels are used.

As evidence of the fact that details have not been slighted simply to bring the selling price down the rear axle is equipped with two Timken roller bearings on the pinion shaft, instead of one, thus insuring perfect alignment, while Spicer universal joints with dust-proof grease cups are employed on both the driving and propeller shafts. All control levers are drop-forgings, properly machined, keyed and bolted, instead of being taper pinned as is usual in low-priced construction. The axle ends from the center housing are keyed to tubing and then put under hydraulic pressure. In fact, everything is fastened in the most approved manner, only keys and bolts being employed, there being none of the usual taper pin fastenings such as were so commonly employed on cars of earlier vintages, and which were responsible for a very large part of the profanity that petty mechanical troubles gave rise to on many of the old timers.

Regular Models Will Also Be Continued.

The announcement of these new models is not to be regarded as being equivalent to the throwing over of the regular model of the Kisselkar which has shown up so well during the past season, as this is to be continued with scarcely any change. The general lines will be identically the same in numerous respects, but the car will represent a great deal more for the money than it has, and in view of the original figure this is saying a great deal. The body has been made six inches longer, while 36-inch wheels will be used instead of 34-inch, and in view of the initial expense for wheels and tires that the manufacturer has to bear in making a change of this nature, it may easily be put down as an improvement of considerable importance on any car selling at $2,000. An I-beam, drop-forged axle will be substituted for the lighter axle formerly employed, and the Atwater-Kent spark generator will be made a feature of the standard equipment where the ignition system is concerned, this taking the place of the four-unit dash coil employed on the previous Kisselkars. For the coming season these cars will continue to list at $2,000 with regular equipment, or $2,200 with special equipment, consisting of a Pantasote-lined top with bow separators, slip covers, Solar lamps, generator, gas tank and robe rail, it having become quite customary in the past few years for makers to list their cars with special equipment of this kind, in order that the purchaser may know exactly what the machine will cost him in complete running order, which means with those numerous accessories that make for comfort, included in the price. It seems quite probable that in time this will be a development that will take strong hold on the automobile trade, so that a top will come to be considered as much a part of a car that ought to be included in its selling price as it is in the case of a buggy.

New Six-cylinder Kisselkar for 1909.

In bringing out a heavy machine for next season's business the designers of the Kisselkar have not departed in any way from their regular standards, the new six-cylinder 60-horsepower representative of the line being merely an enlargement characterized by all those features of construction which have become familiar on its smaller predecessor. The cylinder dimensions are 4 3-4-inch bore by the same stroke, while the accessories are all the same as on the smaller engine. Provision is made for a high-tension magneto and this will be supplied as an extra. As a regular equipment, the Atwater-Kent spark generator will be fitted. This car is built with a drop-forged I-beam forward axle, is hung on three-quarter elliptic springs and has a 128-inch wheelbase. The wheels are 36-inch and the tires are 4-inch front and 4 1-2-inch rear. With a five-passenger tonneau and regular equipment this car lists at $2,750 in complete running order. As a seven-passenger car the price is $3,000, this including a Bosch high-tension magneto as a regular part of the equipment.

In thus adding new models at each end of the price line, so to speak, the builders of the Kisselkar, the Kissel Motor Car Company, of Hartford, Wis., have placed themselves in a position to take advantage of both extremes in the demand that bid fair to make themselves felt during the coming year than ever before in the history of the automobile industry in this country.

NEWS FROM TIRETOWN, OHIO, TELLS OF MUCH ACTIVITY

AKRON, O., July 25.—The Palmer-Hawkins Rubber Tire Company, of Akron, was incorporated a few days ago under the laws of Ohio, for the purpose of exploiting and marketing the sectional solid tire for heavy trucks patented by H. A. Palmer. It has not been decided by the company whether it will manufacture the tire itself, license other companies to make it, or contract for its manufacture and place it on the market. The company starts off with a nominal capitalization. Mr. Palmer believes that his tire has features in the sectional construction that are superior to all others.

The largest picnic out of Akron this year was run Saturday by the Diamond Rubber Company, when over 5,000 persons went to Meyers Lake, at Canton, on five trains. The Diamond band led the marchers to the depot in the morning. Charles Stamm was at the head of the publicity department for the excursion.

Akron is having her first chamber of commerce on a large scale, the movement having just been organized. Local rubber manufacturers are taking considerable interest in the organization for the advancement of the city, O. C. Barber, the match king and a stockholder in the Diamond Match Company, being present. The rubber manufacturers on the board of directors are H. B. Raymond, of the Goodrich Company, and A. H. Noah, treasurer of the Diamond Rubber Company.

Akron figured very largely in the Glidden tour, that closed this week, in more than one way. In addition to A. Auble driving one of the perfect score cars, Oldsmobile, in the Chicago Motor Club team, Akron tires were conspicuous, and a friendly rivalry existed between the manufacturers. The Goodrich and Diamond companies have both issued statements covering the participation of their makes of tires in what was really a great endurance contest. The Goodrich company makes this claim:

"Twenty-three of the 44 Glidden and Hower contestants were equipped with Goodrich tires. Of the 17 clean score cars, 9 were equipped with Goodrich tires, and of the 5 clean score cars in the Hower contest all had the Goodrich make. All of the winning Pierce Great Arrow team's cars had the same make."

The Diamond company makes its claim on superiority in cost of equipment in the following statement:

"Making actual tire cost the basis, as usual, the winning of the Glidden tour, so far as tire equipment is concerned, is credited to the Diamond make. The reports compiled by observers and given out by the Diamond Rubber Company show an average tire cost per car of $46.91 for all cars in the tour, both contestants and non-contestants. The average cost for Diamond tires alone was $16.88, considerably better than the average for the whole tour. The average cost per car for tires excluding Diamond equipment was $64.94. The basis of cost is taken with size 34 x 4, representing the general average of tire sizes used. All items, even punctures, etc., capable of ready repair, are taken into the account, but the big feature of the tire cost was the blowing out of casings and tubes. Of sixty-one blown-out tires all told, the number of Diamond tires so damaged was but five, and this with twenty-one contesting and non-contesting cars using the Diamond make. Of the twenty-two contesting cars with perfect scores at the end of the tour, nine were equipped with Diamond tires; two cars changed to Diamond en-route.

Announcement is made that the Firestone Tire & Rubber Company is preparing to enlarge its present capacity by at least one-third. Part of the improvement is already under way. A part of the present plant will also be rebuilt. The B. F. Goodrich and Diamond Rubber Companies are also preparing to make extensive additions.

HENRY FORD'S LITTLE RUNABOUT JOKE.

DETROIT, July 26.—Deep gloom has for some time enshrouded a considerable number of Detroit's colony of space eliminators whose high-priced and high-powered machines have been compelled to take dust from a diminutive car that heretofore was never regarded as a competitor in the matter of speed. Harsh things have been said regarding the various cars by their respective owners, and maledictions heaped upon the head of the man who in every instance succeeded in cleaning up by a margin that left no room for doubt. Incidentally it has been disclosed that the man who said Henry Ford was devoid of a sense of humor little knew who he was talking about.

Drivers of touring cars have for some time been mystified and chagrined by the ease with which Henry Ford, driving a little runabout about the city or country, succeeded in leaving them behind, despite their best efforts. Much speculation was indulged in, and great grew the fame of the little buzzabout capable of making all others look as though running backward.

Now the secret has been disclosed to a few, although it will be news to the vanquished. Some time ago Mr. Ford had constructed a six-cylinder engine which he mounted on a stock runabout chassis, to all outward appearances identical with the other runabouts turned out by the Ford Motor Company. Trials showed it to be possessed of practically unlimited speed and power. Then Henry Ford's humor asserted itself. Whenever a competitor was met on the road he would be passed as though standing still. Men prominent in the financial world and actively identified with automobile plants here have fallen victims to the speedy little runabout without being able to explain the trouble.

The secret was too good to keep, however, and the story leaked. Now that it is out numerous motorists will be inclined to retract some of the unkind things said about their machines and join Mr. Ford in the laugh at their expense.

RAPID MAKES BIG ADDITION TO PLANT.

PONTIAC, MICH., July 27.—Some idea of the growth of the demand for the Rapid commercial vehicles may be gained from the fact that the makers, the Rapid Motor Vehicle Company, are now at work on the fifth addition to their plant in three years. A contract for the erection of a new building to measure 60 by 300 feet, and two stories in height, has been let and the work of excavation already commenced. It will be constructed entirely of concrete and steel according to the Kahn system, even the roof and stairways being of this material, so that the building will be absolutely fireproof. The supporting walls will be five inches thick, but most of the outer walls of the building will be of glass. The present main building of the plant measures 60 by 300 feet, with an L, 60 by 200 feet, so that the new structure will practically double the capacity of the works. Other buildings comprising the plant are the body shop, 50 by 120 feet, the power plant, testing house and oil house. At present 200 men are employed and 10 cars are being turned out a week. Rapid cars are finding their way into every country of the world, no less than 10 per cent. of the entire output having been exported.

NEW PARTS CONCERN IN CONNECTICUT.

HARTFORD, CONN., July 25.—The Bristol Engineering Company is the title of a new company that has just been incorporated to manufacture automobile parts, and later to build taxicabs. The plant will be located in Bristol, which is a suburb of Hartford. The organizers are the Hon. Albert P. Rockwell, president of the New Departure Company, De Witt Page, secretary of the same concern, and F. E. Moskovics, of Kingston, N. Y. Mr. Rockwell is president of the new company, Mr. Page, vice-president, and Mr. Moskovics, secretary and treasurer. The capitalization has not been decided upon.

Installing Giant Gasoline Tank at Maxwell Factory.

The new gasoline storage tank shown in the photograph has a capacity of 10,000 gallons and was recently placed in the grounds of the Tarrytown, N. Y., factory of the Maxwell-Briscoe Motor Company. The picture shows the tank being hauled from the railroad station to the factory by a 24-30-horsepower Maxwell, which, with the aid of a block and tackle, moved the big cylinder at the rate of four miles per hour.

POPE COMPANY MAY BE REORGANIZED.

HARTFORD, CONN., July 25.—After hearing the arguments of both sides, Judge H. J. Curtis, sitting in the Superior Court here, signed an order authorizing the receivers of the Pope Manufacturing Company to transfer $300,000 of the concern's assets to New Jersey, for the purpose of paying another dividend of 25 per cent. to the creditors, as recently ordered by Vice-chancellor Howell, of Newark. The form drawn up by the receivers did not meet with the approval of the counsel to the Creditors' Protective committee, on the ground that it did not conform to the petition. In order to pay the dividend in question, $380,000 was necessary, and the order read "to transfer such sums as may be necessary from the sum of $628,000, now in the hands of the Connecticut receivers. Percy S. Bryant, of counsel to the creditors, quoted numerous figures, stating that the company had $1,338,000 in various jurisdictions, beside $39,000 outstanding in drafts and $136,000 as the proceeds from the sale of the Columbia steel plant, and stated that the creditors wanted an order to pay a 25-per cent. dividend in cash.

Another bone of contention was the question of setting aside $65,000 as a 25-per cent. dividend on the Unzicker claim, should this be allowed, but an order was entered striking this claim from the records in Connecticut. The attorneys for the different interests finally decided on the form of the order authorizing the receivers to transfer the necessary assets for the general 25-per cent. dividend and it was signed by the court. Judge Curtis also granted the order of the receivers, authorizing the receivers to carry on the business for another period of four months, and the latter made it plain that a reorganization would undoubtedly take place before the expiration of the time allotted.

HARTFORD DEALERS HAVE A GOOD IDEA.

HARTFORD, CONN., July 27.—Rather unique is the scheme of the Hartford Automobile Dealers' Association. During the week of the State fair at historic Charter Oak Park, the association will conduct a mammoth tent show of automobiles, accessories, and the like. The floor space will be about 15,000 feet and will be covered with tan bark. Now, then, inasmuch as a State fair is always a drawing card, it is reasonable to assume that those who are out to see all there is will visit the automobile exhibition. Many of the dealers in the association will have their 1909 models to show, and the exhibition will be a comprehensive one; at least the show committee will endeavor to make it such. The farmers are coming more and more to realize the true worth of the motor car, and the proposed show held in connection with the fair should prove a useful object lesson. Needless to say business will be done, for crops promise to be good and confidence being well restored orders are in prospect.

Next October there will occur the formal opening of the two million dollar Connecticut river stone bridge at Hartford. It is proposed to make the motor car one of the chief features of the celebration. Agitation favors the holding of the local club hill-climb during the celebration, which will probably last a couple of days. The new structure is the gateway of the east and is one of the finest pieces of stone masonry in the world.

NEWS FROM THE FRANKLIN HOME.

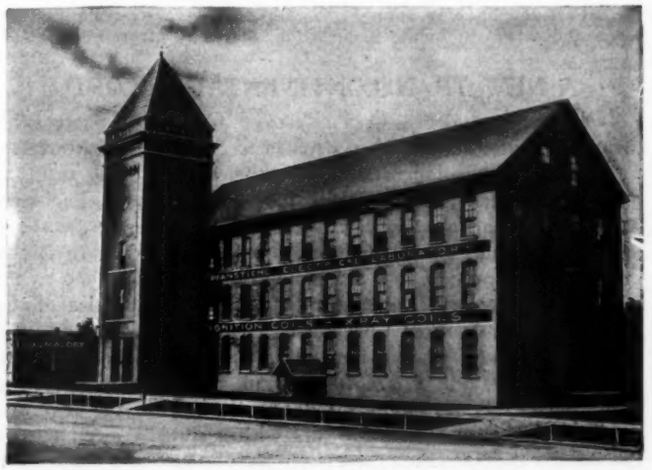
SYRACUSE, N. Y., July 27.—At the Country Club last Wednesday evening, H. H. Franklin, president of the H. H. Franklin Manufacturing Company, entertained the company's branch managers and traveling salesmen. They are in Syracuse from their various territories to attend the annual conference, which lasts a week. A most enjoyable evening was spent, and the host was toasted in true "drummer" style. Those present were H. H. Franklin, F. R. Bump, W. S. Jewell, A. B. Henley, J. F. McLean, J. E. Doane, L. E. Hoffman, George Ostendorf, George Messer, W. J. Reynolds, F. H. Sanders, R. La Porte and A. B. Caldwell.

Friday the managers and salesmen were the guests of the Crucible Steel Company and a tour of inspection was made through the big plant. The Franklin company uses large quantities of the high-grade steel made by this concern.

The H. H. Franklin Manufacturing Company has announced that the usual annual picnic for employees will be held at Long Branch, near this city, on August 15. The program will include numerous athletic events, and a baseball game will be one of the features. This company's shops, by the way, muster one of the strongest amateur nines in central New York. For three or four years it has been maintained, meeting the strongest shop nines of this section, and last year it won the championship trophy of the City Amateur League.

PFANSTIEHL LABORATORY HAS NEW PLANT.

CHICAGO, July 27.—The Pfanstiehl Electrical Laboratory is now occupying its new building in North Chicago. The new factory is a four-story brick structure with side track accommodations, and is supplemented by a specially constructed testing and experimental laboratory where the concern will continue its policy of advancement in gas engine ignition. Every necessary detail for the manufacture of x-ray and spark coils has been provided, and customers will be given the advantage of the special experimenting and research which these added features will facilitate. The change of location was made necessary by the increase in demand for the Pfanstiehl coil, which started several months ago, and which, the makers state, shows no sign of abating, but, on the contrary, is steadily increasing.



Laboratory at North Chicago Where Pfanstiehl Coils Are Made.

AUTO NEWS MADE IN GERMANY.

BERLIN, July 23.—The joint military drive of the German and Austrian Motor Volunteer Corps on July 27, 28 and 29 has attracted 44 entries, 25 of which are German. The start takes place at Vienna with the finish at Berlin. Cups have been given by the German Emperor, the Austrian Emperor, Prince Henry and the Archduke Frederick, as the character of the tour is a strictly military one, and is intended to show the car in war.

Lautenschlager, who has just gained such a splendid victory in the Grand Prix, made his début in first-class racing in this event. For years past he has been entrusted with the testing of the Mercedes cars and had also accompanied Salzer as his mechanician in many a big tussle, but this is the first time he personally has been seen at the wheel of a big racer.

A qualification test of 1,570 kilometers for the German Government subsidy for motor wagons and vans is being carried out by the Pioneer troops, a number of big German firms taking part in the contest, the result of which will be the basis of the subsidy scheme. A Buessing cart rigged up as a repair shop accompanies the tour, and will make all necessary repairs.

It is rumored that the Mercedes Company has sent in a protest against Erle's victory on a Benz in the Prince Henry tour, stating that the list of winners needs a careful examination.

September 20 has been fixed for the annual Semmering hill-climb of the Austrian Automobile Club, which at its inception was won three times running by the late American enthusiast, Mr. Dinsmore's Mercedes, driven by Werner, now head chauffeur to the German Emperor. In the racing division sub-classes have been arranged for non-restricted cars and cars of the 1908 Grand Prix type, while one category of the touring vehicles is open to Prince Henry type machines.

MASSACHUSETTS BODY TAKES UP "TRAPPING."

WORCESTER, MASS., July 27.—John P. Coghlin, chairman of the "Trap Committee" of the Massachusetts State Automobile Association, and president of the Worcester Automobile Club, issues the following bulletin:

The directors of the Massachusetts State Automobile Association have decided to take up the question of traps in Massachusetts. The directors feel that the traps fail to accomplish the purpose of eliminating reckless driving. The directors are satisfied that a very large per cent. of its members drive carefully and in order to prevent careful drivers of automobiles from being annoyed by traps, a great many of which are operated for a pecuniary consideration, we have arranged with a clipping bureau to furnish us information as to location of traps.

We wish you to co-operate with us and furnish us any information you may have with reference to traps. We shall furnish a list of these to all clubs and instruct them to post them in their club rooms and in addition to this will furnish each member of the Massachusetts State Automobile Association from time to time a list and location of traps in Massachusetts together with any comments which we deem necessary.

Kindly co-operate with us in this matter, and address any information you have to John P. Coghlin, chairman trap committee, Massachusetts Automobile Association, 234 Main street, Worcester,

A NEW TRANSCONTINENTAL RECORD.

Two college students, C. T. Crocker and M. C. Scott, with their chauffeur, Charles West, decided to go home to San Mateo, Cal., for their vacation in an automobile, instead of by train, as usual. So Crocker equipped his 1907 40-horsepower Fiat runabout, which had already seen some strenuous service, with an extra large tank, loaded up with ropes and tackle, provisions, guns and ammunition, and a camping outfit, and on June 25 the party left New York. Five days later they were in Chicago, and on July 3 they reached Cheyenne. There, however, they were detained two days while a local wheelwright was making a new wheel to replace one broken on the road. They finally arrived in San Mateo, July 14, having been twenty days on the trip, and establishing a new record for cars with a single crew, although the jaunt was undertaken principally for pleasure and not record-making.

AUTOS AT QUEBEC'S TERCENTENARY.

QUEBEC, July 27.—Automobiles played an important part in Quebec's recent tercentenary celebration, and it is estimated that over 200 came to this city from different parts of the Dominion and the United States. As the street car accommodations to the Plains of Abraham, where the principal exercises were held, were rather inadequate, everybody who could obtain a car was only too glad to make use of it. The roads were in good condition and made the run very pleasant. The Comet Motor Company, one of Canada's few automobile manufacturers, supplied five of its cars to the Prince of Wales and his suite for the occasion. An amusing interview is reported with A. A. Brager, of Baltimore, Md. "Your streets are worse," said Mr. Brager, "and your sewage system is very nearly as bad as in my own city, which is saying a great deal."

Reports from Charlottetown, P. E. I., state that an important step was taken in the fight against the new automobile bill when the counsel for the automobile interests moved for a rule to set aside the conviction made recently by Magistrate McDonald whereby the defendant, who illegally drove an automobile to test the act, was fined $500. The grounds on which certiorari were asked for were that a bill of this kind comes under the head of criminal law, which only the Parliament of the Dominion can enact, and that it is therefore beyond the power of the Provincial Legislature. A rule absolute was granted, and the argument was set down for hearing at the November term.

NO ARDENNES RACE FOR THIS YEAR.

PARIS, July 23.—Owing to the Ardennes race and the Florio Cup contest, both of which were announced under Grand Prix rules, being scheduled for closely approaching dates, it has been decided to abandon the former event this year in order to assure the success of the latter. The classic Ardennes race was originally announced for August 12; constructors thinking the interval between the Grand Prix and the Belgian race too short, a postponement was made to August 27. This, however, clashed with the Florio Cup contest announced months ago to be run on September 24, and a protest was made by the Italians. After a conference between the two parties, it has been decided to alternate the two races, the Italians holding a speed contest for the Florio Cup next September, and the Belgians running their Ardennes race in 1909. The following year it will again be the turn of Italy, and so on each year. By this arrangement there will be but two important speed tests in Europe each year under international rules, the Grand Prix and the Ardennes or Florio.

Owing to the unexpected result of the Dieppe race more importance than usual attaches to the Italian speed test this year. Though all who were present at Dieppe will not come to the starting line at Bologne, the number will certainly be greater than if the French cars had lived up to expectations on July 7.

A REPAIR SHOP IN THE WHITE MOUNTAINS.

BRETTON WOODS, N. H., July 28.—The White Mountains are growing in popularity each year as a touring district. Hundreds of cars speed over the roads daily. Most of the tourists make Bretton Woods their destination or use it as a central point for day runs through the outlying district. It was not enough to provide them with a commodious garage, which has been in existence for several years, so the management of the Mount Washington and Mount Pleasant hotels, John Anderson and J. D. Price, respectively, who are also well known hosts at Ormond during the Florida beach meets, this season have added to the plant a repair shop with complete machine tool facilities.

The shop is in two sections. In one there are facilities for owners and chauffeurs to do their own repairing free of charge. The other is a completely equipped shop. In the former work benches, vises, tackles and a pit are available. The latter is filled with standard up-to-date machines, and has competent mechanics always on hand. A charging outfit is also installed.

BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

From Rome, N. Y., comes the report that the Long-Turney Manufacturing Company, makers of the Long radiators, is about to erect a two-story addition, 50 by 100 feet, to its factory.

John Barker & Company, Ltd., Kensington, W., London, England, announce that their motor department is open to negotiate with American manufacturers of motor novelties and accessories on the basis of exclusive representation in the British Isles.

A new automobile factory is to be located at Moline, Ill. It is the Velie Motor Vehicle Company, and will manufacture gasoline, electric and steam cars. All the promoters are connected with the Velie Carriage Company. They are W. L. Velie, O. E. Mansur and S. Harper.

The 1909 $2,500 contest for Winton "Six" chauffeurs will probably be open to drivers of the 1908 "Six" as well as of the 1909 "Six." In this case no mileage reports will be accepted before October or November, in order that cars now in service may not have too great an advantage in time over new cars.

The Grove Garage Company, with W. B. Grove as vice-president and manager, has just opened for business in Bluffton, Ind. They will do an agency as well as a garage business and are desirous of receiving catalogues of cars, accessories and supplies, with a view to negotiating for their active representation in that part of Indiana.

Seattle, Wash., business men have formed a company to operate taxicabs in that city. S. A. Burch is president; Frank Hanford, vice-president; Charles Perry, secretary, and C. M. Hatcher and C. A. Stewart, managers of the concern, which has a capital stock of $150,000. Five cabs are to be in use within thirty days, and others have been ordered.

Another city to enjoy the advantages of the most modern method of transportation is Los Angeles, Cal., whose local taxicab company placed its first machine in operation recently. E. A. Anthony, manager of the Western Motor Car Company, is interested in the new enterprise, and headquarters for the present are in his garage. The cars in use are of the Thomas make.

Tennant Motor, Ltd., Chicago agents for the Peerless, at 1449 Michigan avenue, have just increased their capital stock from $7,500 to $60,000, according to certificates recently filed with the State Secretary of Illinois to that effect. This agency has had a wonderfully successful season with the 1908 cars and has already sold no less than 16 Peerless cars with Kimball limousine bodies for 1909 delivery.

The adaptability of the automobile to all continents is strikingly shown by the trip of an officer of the German army, Lieutenant Gratz, through German East Africa. The roads of this country are of the most primitive character, and great difficulties are met with, of which the tropical heat is not the least. Lieutenant Gratz reports that his Continental tires are giving the best of satisfaction, even under these adverse conditions.

Another startling reminder of the grade crossing menace was the experience of three prominent motorists on the Mills crossing in the town of Canton, Conn. The car was approaching the crossing and the oncoming passenger express was not noted. The driver of the car brought it to a quick stop, and as the train whizzed by it clipped the two headlights off as clean as a whistle, the fate of the party having been decided by possibly an inch.

That there is a demand for foreign automobile tires in this country seems to be the opinion of Pirelli & Company, Milan, Italy, who have recently established an American agency at 296 Broadway, New York. Sherburne P. Becker, formerly Mayor of Milwaukee, is one of their latest customers. It will be remembered that this was the tire used on the Itala car with which Prince Borghese won the Pekin-Paris race.

The Grout Automobile Company of Orange, Mass., states that G. H. Denton of Denver, Col., recently drove one of its cars 272 miles over the mountainous Colorado roads in one day, his running time being 13 hours. Sixteen gallons of gasoline were consumed. The car was a 1905 model, which had already been run about 20,000 miles, and carried four passengers. No repairs or adjustments of any kind were made.

Berlin, N. Y., is famous for its gladiolus, or rather the extensive fields of them that constitute a feature of "Meadowvale Farm," as it would be out of place to use the word in the singular in view of the fact that during the season, which extends from August 1 to September 10, there are from 15 to 30 acres of them to be seen in bloom at one time. Many automobile parties drive to Berlin from the Berkshire region just to get a glimpse of the great expanse of color.

The New York branch of The White Company will hereafter be known as the Eastern branch, and George W. Bennett will take the title of Eastern sales manager. The territory to be handled by the Eastern branch comprises New York State as far as Rochester, the eastern counties of Connecticut, part of Berkshire county, Mass., the entire States of New Jersey and Delaware, and the eastern half of Pennsylvania. The office of the White Company in Philadelphia becomes a sub-branch under the control of Mr. Bennett.

A decision against the complainant has just been handed down by the United States Court of Appeals in the case of the Boston Woven Hose and Rubber Company versus the Pennsylvania Rubber Company, referring to a patent claimed to cover the use of security bolts on automobile tires. Had their patent been upheld, the Boston company would have been able to collect royalties from anyone making or using such security bolts. This would have affected the whole tire industry.

According to C. W. Kelsey, the 24-h.p. Maxwell will undertake the New York-San Francisco endurance run even if none of the Glidden tourists accept the challenge. Mr. Kelsey has just returned to the factory from Chicago, where he went to make preparations for the contest. The route contemplated is as follows: New York, Buffalo, Erie, Cleveland, Toledo, South Bend, Chicago, Cedar Rapids (Ia.), Omaha, Cheyenne (Wyo.), Ogden (Utah), Elko (Nev.), Sacramento, San Francisco. The distance in round numbers is 4,200 miles.

On the evening of June 21, 1885, seven owners of Rambler bicycles met in the city of Buffalo, N. Y., to organize the Buffalo Rambler Bicycle Club. Just a few weeks ago these seven original members, with some two hundred fellow members, celebrated their twenty-third anniversary at a reunion and outing at Eagle Park, in that city. Although the club started in an unpretentious way, it was soon the largest in Buffalo, maintaining a large gymnasium with billiard and reading rooms, and many world-famous drivers carried its colors to victory. It is now the oldest bicycle club in the world. Of its two hundred odd members not a few own Rambler automobiles.

The Goodyear Tire and Rubber Company has taken a contract to furnish 25 of the New York Transportation Company's 50 taxicabs with its quick detachable tires. The remaining 25 were originally so equipped, and had given such good service that the company decided to use Goodyear tires on all its cabs. Goodyear tires will also be used on the 300 cabs of the New York Taxicab Company and the 50 cabs of the Terminal Taxicab Company of Washington. The Goodyear Company points out that the tubes and casings of these tires can be changed very quickly, and by the use of the new Goodyear air bottle, charged with pure air, can be inflated in less than a minute.

When Presidential candidate Taft visited President Roosevelt at Oyster Bay, July 23, he was met at the West Twenty-third street ferry in New York by one of the government White steamers, and under the protection of "Casey the Cop," was driven in a jiffy to the East Thirty-fourth street ferry, the traffic and speed regulations being for the moment suspended. Once in Long Island, the car proceeded in record-breaking style to the President's residence at Sagamore Hill, and a few hours later brought Mr. Taft back all the way to his hotel in New York. It will be remembered that on his last visit to Oyster Bay, three weeks ago, he came back as far as Long Island City in the automobile, and evidently the habit is growing upon him.

A unique test will be started by the Brush Runabout Company this week, when four Model B 7-horsepower Brush runabouts and one Brush delivery wagon will leave Detroit on tours radiating through all parts of the country. One will go through Cleveland, Buffalo and New York to Boston; others to Pittsburg, Philadelphia and Washington, to Cincinnati, St. Louis and Kansas City, to Indianapolis, Springfield, Ill., and Chicago, and to Chicago, Madison, Wis., and Minneapolis. The tours are designed to demonstrate the fuel economy, reliability and general efficiency of the cars through the country which they traverse—incidentally spreading the good roads gospel. A booklet will be published by the company at the end of the run, giving information about gasoline and oil consumption, repairs and adjustments, etc.

NEW AGENCIES ESTABLISHED.

W. C. Chambers and F. C. Winkel have opened a new auto supply station in Philadelphia, at 1320 Vine street. The new concern will be known as the Automobile Supply Company.

The Michelin Tire Company has opened a branch at 2001 Euclid avenue, Cleveland, O., under the management of R. B. Tracy,

with D. K. Dickinson, formerly of the Hartford Rubber Works, as assistant.

The Gyroscope Automobile Company has just been incorporated to handle the output of Blomstrom Gyroscope cars. The incorporators are C. P. Fleming, Douglas Hamilton and A. L. Kull, the latter being general manager. The company will shortly establish its salesrooms at 231 West Fifty-fourth street, New York City, where extensive alterations are now in progress. The new headquarters will have ample storage room and a large machine shop.

PERSONAL TRADE MENTION.

C. A. Coey, for many years the Thomas Flyer representative in Chicago, has at last severed his connection with that firm, and will shortly locate on Automobile Row as agent for the De Luxe.

Followers of automobile trade doings will remember the work of Percy F. Megargel in the Oldsmobile New York-Portland race, and the double transcontinental trip of the Reo *Mountaineer*. He is now advertising manager for the National Sales Corporation, with offices at 296 Broadway, New York.

Charles M. Brown.

Recently appointed manager of the New York branch of the Winton Motor Carriage Company.

"Eddie" Richards, the well-known driver of Buffalo, has just left the E. R. Thomas Motor Company to accept the position of demonstrator for Mason B. Hatch, the Chalmers-Detroit agent in Buffalo. Mr. Richards drove perfect-score cars in the Glidden tours of 1906 and 1907 and has the reputation of being one of the best demonstrating salesmen in the business.

C. H. Tucker, the sales manager of the Acme Motor Car Company, has gone to Savannah, Ga., where he will remain two weeks. Mr. Tucker stated that his trip was necessitated by an accident to J. C. Finney, the Savannah agent, who was thrown from his car while speeding and is still confined to his bed. A number of cars had been shipped to Savannah and Mr. Tucker went to look after them.

Mason B. Hatch, salesmanager of the E. R. Thomas Motor Company, of Buffalo, N. Y., has resigned to go into the retail field. He will handle the Chalmers-Detroit line exclusively in Buffalo and surrounding territory. Mr. Hatch is the second salesmanager to join the ranks of the Chalmers-Detroit dealers. The unusual opportunity offered by the Chamers-Detroit line is the explanation given by Mr. Hatch.

In the Columbus (O.) *Press-Post* the following recently appeared: "If persistence could be humanized and made tangible, it could be presented in no clearer vision and substance than embodied in the physical and mental make-up of C. D. Firestone, of the Firestone Tire and Rubber Company, Akron, O., who of all men typifies the word in the fullest and highest sense. Every fiber in his being, mental and physical, means fight, determination, persistence. That has been C. D. Firestone all his career. He never waits to see what position some other person is going to take. He takes his position first and then turns about to see who has joined him. If none, then he is yet sure he is right. Whatever his views and sentiments, he believes in them to the full and fights for them. Mr. Firestone is a man of enlarged business capacity, with physical grasp equal to his intellectual grasp."

TRADE PUBLICATIONS RECEIVED

Continental Caoutchouc Company.—This company is sending out to automobile users an interesting booklet describing the trip of J. M. Murdock from Los Angeles to the Atlantic Coast. Mr. Murdock, of course, used Continental tires. The circular also contains data of the carrying capacity of tires, hints for prolonging their life, etc.

Thomas B. Jeffery, & Co., Kenosha, Wis.—One of the oldest and brightest of the many "house magazines" is that published in the interests of the Rambler. The current issue is entitled the "Maintenance Number," and is devoted largely to letters from Rambler owners detailing their expenses and mileage. In one article testimonials from owners in thirty-seven States have been gathered, some of whom have had their cars four or five years. Many of them have truly remarkable records. The magazine, as usual, is illustrated with many photographs of Rambler cars of different types, and contains a number of quotations from well-known writers.

Bosch Magneto Company, 160 West Fifty-sixth street, New York.—New publications concerning the products of this company have to do with the recently announced Bosch magnetic plug ignition with low-tension magneto (system Honold), for three, four and six-cylinder motors. Full details of the new type of plug, which makes possible the mechanical simplicity of the high-tension with the freedom from electrical troubles and wiring of the low-tension system, are given as well as illustrations of its parts and assembly. Also the synchronized low-tension magneto designed to act as the source of current supply and the method of wiring are shown together with other necessary information concerning the new system.

Cadillac Motor Car Company, Detroit, Mich.—"How to Drive a Model G Cadillac" is one of the best-written instruction books that have come to hand in a long while. It certainly contains a great deal of information that the average owner of a car is desirous of having and convinces the man who thinks that "as long as the car runs everything is all right," of the extent of his error. There are many pointers given which, if heeded by those who read them, will save many a dollar that must otherwise be paid out for experience. In fact, the contents of the booklet are much more comprehensive than the title would indicate, as there is a great deal of value concerning the maintenance of the car as well.

Hyatt Roller Bearing Company, Newark, N. J.—"Technical Data and Dimensions of the Hyatt Flexible Roller Bearing as Applied to the Motor Car" outlines the raison d'être of a well-executed booklet prepared by this firm to show the application of its product to the automobile in such situations as the change-speed gear-set, shaft drive, rear axle bearings, bevel gear drive, countershaft on a chain-driven car and similar rôles. No less than 250 sizes of Hyatt roller bearings have been standardized for all conditions of speed and load and detailed information concerning these, as well as their capacity and fitness for various applications on the automobile, is given. It is entitled Bulletin 31, and will be sent upon request.

Page-Storms Drop Forge Company.—A folder from the Page-Storms Drop Forge Company announces their removal from Springfield and Chicopee Falls to their new plant at Chicopee, Mass. By combining the two shops the management is now in a position to give the details of the business a close personal supervision, which should result most satisfactorily and insure a first-class product. The company will continue to manufacture the same lines as before, including drop forgings, drop-forged wrenches, eyebolts, thumbscrews and nuts, etc. Their long experience has enabled them to adopt the most modern construction and equipment for the new plant, thereby insuring their customers the best of service.

Firestone Tire and Rubber Company, Akron, O.—The cover of this company's latest booklet seems to represent the Flatiron building, towering majestically above a crowd of rushing fire-engines, delivery wagons and auto trucks, all of course equipped with Firestone tires. In the foreword the manufacturers state that they have aimed to omit all argument of their own; instead, they simply present photos of the different types of vehicles to which they fit their tires, with testimonials from the respective makers. The number of examples illustrated well shows the remarkable growth in this industry; and indeed, as the Firestone company say, the booklet is not only an advertisement for their tires but also a practically complete directory of the manufacturers of auto-trucks. They are represented there in all styles and sizes, both electric and gasoline, from the light parcel-delivery wagon to the four or five-ton truck.

Packard Motor Car Company, Detroit, Mich.—Under the title of "Packard Motor Cars, 1909," this company is sending out one of the first catalogues of the new season's cars. The Packard is such a well-known product that illustration rather than description is relied upon to convey to the reader the character of the Packard representative for the coming year. Interspersed among the attractive pictures of the various types of Packard bodies and equipment are some interesting views of the plant where the Packards are made. Then there is a mere mention, beside the illustration of course, of two new Packard comers. The Packard truck, which is the result of five years' development and the Packard "Eighteen" limousine, a brand new comer, about which the makers have kept mum up to the present. Special booklets devoted to these models will be forwarded upon request. The booklet closes with a description of the technical features of the Packard "Thirty" and a Packard "Thirty" price-list.

Premier Motor Mfg. Co., Indianapolis, Ind.—"Character" is the title of a booklet devoted to the exploits of the Quality Car. After explaining their belief that the cars which make good in public contests will be found to give equally good service in the hands of their users, the manufacturers give an interesting account of the 1907 Glidden Tour, in which the Premier entrant and the Premier pilot car both distinguished themselves. The story is illustrated with many good views of the contestants at different parts of the course. There follow a number of paragraphs devoted to the three Reliability Runs of the Chicago Motor Club, in all of which the Premier made good showings, and to some fast runs made by Premier owners in different parts of the country. A second and smaller booklet contains the experiences of the Premier "Pathfinder" in laying out the course for the 1908 Glidden Tour. For twenty-four consecutive days of mud-plugging and mountain climbing this car ran without a falter and without a single mechanical replacement. Like the first, this is illustrated with interesting photographs taken along the route, including the Delaware Water Gap, Longfellow's home, hunting cabins in Maine, and other attractive places.

Stewart & Clark Manufacturing Company, Chicago.—"Satisfaction" is the heading of a large and attractively printed poster that this firm of speedometer manufacturers is now sending out, and satisfaction is also the keynote of its contents, as in addition to the description and illustration of the parts and workings of the Stewart and American instruments, a second sheet pictures the cars of a number of prominent Chicagoans, giving their names and showing how the speedometers manufactured by this concern are mounted on them. Across the top of this sheet is the statement that "500 cars equipped with Stewart speedometers pass the corner of Michigan avenue and Jackson boulevard in less than 8 hours," and the rest of the circular substantiates it by giving the names of the owners of the 500 cars, as well as the make of car. As this is one of the busiest street corners of the Windy City, the man stationed there for the job found it difficult to get all of the license numbers, and not a few escaped him. The illustrations of the circular are made from photographs of cars on which Stewart speedometers are used, all the pictures being snapped in one day as the cars were found standing at the curb in different parts of the city.

INFORMATION FOR AUTO USERS

G-L Economizer.—This is an air-control device which automatically governs the air in the float chamber of any float-feed carbureter, and its action when attached is dependent and is solely governed by the vacuum created in the suction tube of the engine when it is running, automatically stopping and starting with the engine. There are no valves, springs or other parts to wear, and when once attached, it becomes a permanent fixture. It is connected to the inlet manifold, in which a vacuum is created by the motor, and this causes a decrease in the atmospheric pressure in the float chamber of the carbureter, this partial vacuum in the float chamber fluctuating according to the degree of vacuum in the manifold, thus automatically governing the quantity of gasoline issuing at the jet and thereby insuring a uniform mixture regardless of the load or speed. This result can only be obtained where the gasoline issuing from the nozzle is held at a constant level and it insures an increase in power as well as a great increase in the flexibility of the engine, at the same time eliminating difficulties arising from carbon deposits. Maximum power is also obtained and the makers claim a 50 per cent. saving in the consumption, due to the uniformity of the fuel charges. The instrument is neat and attractive and is furnished complete with all fittings for installing. It is patented in this country and abroad and is being marketed here by the G-L Economizer Company, *Times* Building, New York.

G-L FUEL ECONOMIZER.

Bowers Junior Carbureter.—This is a smaller edition of the Bowers carbureter, and, while brought out to sell at a low price, is nevertheless of high-grade make, perfect in workmanship and finish, and, according to the manufacturers, the F. E. Bowers Company, Inc., New Haven, Conn., with the exception of the regular Bowers' carbureter, it will give the greatest economy and flexibility possible. It is designed on the Venturi tube principle, having a vertical tube of this type, thus giving a straight draught through the carbureter. Supplementary air is admitted through an original diaphragm placed over the Venturi tube, this air being controlled by reed or flapper valves of different size and gauge, which, taken in conjunction with the Venturi principle, gives a perfectly proportioned mixture for all speeds. The Bowers junior is small, light and compact in design. The throttle part can be set at any angle and the carbureter can be instantly taken apart without any danger of getting out of adjustment, as the only adjustment necessary is at the spray nozzle for the gasoline. The float chamber is concentric with the nozzle, thus making it impossible for the angle at which the car is running to affect the feed. The nozzle is of the new Bowers atomizer type and the carbureter is completely protected at the air entrance and cannot drip or leak.

BOWERS JUNIOR CARBURETER COMPLETE.

"Watch Dog" Auto Protector.—The Automobile Protection Company, 322 Hudson street, New York City, have perfected a neat and convenient little instrument to keep track of the movements of a car and have very aptly named it the "Watch Dog." It works on the principle of the pedometer and is designed to warn the owner when his car has been taken out of the garage by his driver without permission, but, unlike many of the instruments devised for this purpose, it is extremely small and compact, besides being self-contained. The fact that the illustration shows practically the actual size will give some idea of how very small it really is. There are no driving gears, wires or other attachments, it only being necessary to fasten the "Watch Dog" to the dash or any other part of the car. As it depends for its action upon vibration, and every cars differs somewhat in the amount set up by its running, it is necessary to note the reading of the instrument after having run the car for a certain period. Once this is known, the owner has an accurate check upon his car, as a glance at the instrument will show that it has bene taken out and its reading will indicate how long it was out without his permission. To prevent tampering, the action is protected by a hardened steel ring placed around it and the instrument is permanently sealed in place on the car.

LIFE SIZE CUT OF THE "WATCH DOG."

Siro Carbureter.—In bringing out this carbureter, the makers, the Siro Carbureter Manufacturing Company, 27-35 Taylor street, Springfield, Mass., have made a radical departure from current practice in that all air-controlled valves and diaphragms have been done away with. The entire working of the carbureter is mechanical, so that, once adjusted, it stays that way and there is no need for constant tinkering. The auxiliary air and gasoline valves are so arranged that they open or close a certain distance corresponding to the position of the throttle, so that every adjustment on the carbureter is controlled by a single lever. The peculiar construction of the mixing chamber is said to give a uniform mixture at any position of the throttle, regardless of the speed of the motor, the makers claiming that it is possible to adjust it when on the motor so that the car can be driven from two to three miles an hour up to its maximum speed simply on the throttle. The best materials are used throughout, all fixed joints being pinned and riveted, thus doing away with the possibility of anything slipping. The Siro carbureter is now being manufactured in six sizes, namely, 1, 1 1-4, and 1 1-2 inch horizontal type, and the same sizes in the vertical type. It is instantly adaptable to a large number of well-known cars.

VERTICAL TYPE OF SIRO CARBURETER.

Prest-O-Lite Motorcycle Tank.—A Prest-O-Lite gas tank for motorcycles has made its appearance on the market. Its aim with the motorcycle, as with the automobile, is to furnish "gas on tap," which can be turned on and off like a gas jet. The motorcycle Prest-O-Lite tank stores 10 cubic feet of gas. With the 1-4-foot size of burner, usually employed on motor cycles, this new Prest-O-Lite tank gives continuous light for 40 hours. The size of the tank, 4 inches by 12 inches, makes it small enough to be carried easily. It is constructed of drawn steel of high tensile strength, and is finished in triple nickel plate. The retail price will be $10, and recharged tanks will be obtainable at any of the Prest-O-Lite Company's 2,200 exchange agencies, at about 60 cents.

NEW PREST-O-LITE TANK FOR MOTORCYCLES.

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